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ABSTRACT

Suggesting that students in the primary grades can explore the world around them and practice valuable skills in spelling, reading, writing, communication, and language, this book presents cross-curricular units on the environment that reach diverse needs by working through emotional memory, deductive reasoning, and multiple intelligences. Features of the book include: ready-to-use activities; sample reading texts; group demonstrations; and classroom-tested teaching suggestions. Each unit includes an introductory narrative, advice on using the theme, related language arts and extension activities, a list of trade books, and class activities. The first unit is "Our Invisible Cloak, the Air"; the second unit is "All in a Day's Weather"; the third unit, "A Dry, Dry Place," focuses on the desert; and the fourth unit is "A Pond Is not a Puddle." Appendixes contain advice on setting up and running a learning center; advice on how to make and use bulletin boards and file folders; a 47-item glossary; instructions on how to make a book; and 10 teacher resources. (RS)

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LANGUAGE ARTS THEME UNITS

CROSS-CURRICULAR ACTIVITIES FOR PRIMARY GRADES

OUR ENVIRONMENT

- THE AIR
- WEATHER
- THE DESERT
- A POND HABITAT

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BY
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Bloomington, Indiana

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Introduction To The Series

Cross-Curricular Theme Units

This series presents instructional units on themes typically taught in the primary grades. Cross-curricular, multi-faceted learning is at the heart of these units.

Though the topics focus on science, math, social studies or literature, we use language arts skills consistently in each unit. Listening, speaking, reading, and writing activities show children that no matter what content they learn, they will increase their effectiveness through the communication skills that lead them through these units of study.

Encourage your students to discover through play and observation, then to share ideas and surprises with you or with other students. We remind you to integrate all of the language arts while students watch their guinea pig or follow the progress of a box turtle.

> Writing needs to be a significant part of every unit. Take dictation from non-writing students, to show them how to act like a writer. Have students regularly write their own books, make picture books, and write the text that will help them share their knowledge.

Each unit in this series uses as many frames of mind or intelligences as possible. Howard Gardner (*Multiple Intelligences, 1993)* lists seven frames of mind and the activities that work with them:

- Literary: stories, poems, rhymes;
- Logical-mathematical: numbers, counting, graphing, logic;
- Bodily-kinesthetic: physical activity, games, acting-out;
- Visual/spatial: art, theatre, reading, writing, producing;
- Musical: songs, rhythm, listening, instruments;
- Interpersonal sociological connection to others: speaking, listening, sharing;
- Intrapersonal psychological connection with one's self: reflection, metacognition, feelings, and internal discourse.

Give your students a chance to express themselves across this range of intelligences by following the guidelines in each unit.

How to Use These Theme Units

This book offers you:

- ☛ Ready-to-use theme-oriented units that integrate the language arts across the science and social science curricula;

- Ways to connect the units meaningfully with a required curriculum;
- Unit goals that focus your day on enjoyable student-centered experiences;
- stimulating "grabbers" from children's literature, which will elicit child involvement;
- sample questions to pose about the readings;
- a wealth of resources that can lead you wherever your particular situation demands.

This book also gives you many choices for expanding each unit theme into a cross-curricular learning adventure. So you can readily:

- use the Appendices to create multimedia learning cetners featuring a computer, audiotapes, library books, and an area for writing and artwork;
- find ways to build on children's prior knowledge, thus reinforcing their confidence for further explorations;
- develop more learning strategies from the springboard of these units.

The units in each volume work well together for an extended exploration of the volume topic. Or they may use them separately and independently. In either case, you have the opportunity to expand your students' vocabulary, knowledge, and skill. Speaking of vocabulary, in *Appendix C* you will find a *Glossary* that defines our use of terms. Several other *Appendices* give you more detail on the activities cited in these lessons. After selecting an instructional unit and pulling together the necessary materials, we suggest the following procedure:

1. Read or paraphrase Part IV, the *Introductory Narrative.*
2. Ask your students to share their knowledge on the topic.
3. Read the book recommended in Part V. 2., to enrich the students' understanding of the theme.
4. From the options listed, select the activities that will best involve your students. You may want to ask the children to select the activities that suit them.
5. Toward the end of your study, you may choose any or all of the activity pages to reinforce the knowledge or skills that you are highlighting.

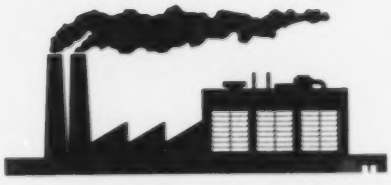
You may reproduce and distribute the *Activity pages* as needed. You may also want to distribute the *Introductory Narrative,* so your students can read along or read it independently.

We suggest that you build learning centers that have artifacts, books, games, activity sheets, illustrations, and other materials that expand and enhance the theme of each unit. You can find ideas for learning centers in the Appendix.

Creative minds will find numerous ways to turn these units into delightful and profitable learning experiences.

Unit 1:

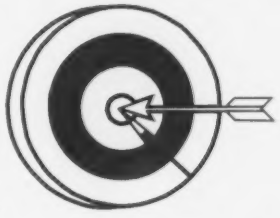
Our Invisible Cloak, The Air



I. Introduction: How the Theme Can Interest Students

Children are always curious about their environment. You can expand on this natural curiosity by exploring those things most familiar to them; the air provides a fine starting point. Build on their previous experience by asking what they already know about air: are they aware of it? Can they feel, see, smell, or taste it? Have they heard about different kinds of air on the radio or TV? You can encourage their curiosity to understand more about this element by previewing what they will learn in this unit.

II. Targeted Ideas



- The discovery that, though invisible, air is everywhere.
- Air is essential for life.
- Air weighs little.
- People have learned to use air in productive ways.

III. Making Connections

This unit relates well to all the others in this book. As you progress through them, you may readily refer back to what the students have already learned about air to what they are currently learning about weather, the desert, and the pond. For instance, you might pause after reading the subsequent theme narratives to pose these questions:

1. How does the weather change when the air changes—when it gets cold, or heavy, or polluted?
2. What kind of air do we find in the desert?
3. Does the moist air around a pond affect plant and animal life there?

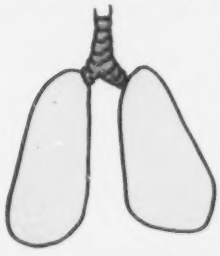
You may also connect this unit with several in the other books in this series. For instance, the units in Volume III, ***ANIMALS AROUND US***, offer comparisons to the atmospheric conditions discussed here.

In discussing the beaver in Volume IV, Unit 2, or the whale in Volume III, Unit 3, you might ask about those animals' breathing needs. Children will be surprised to learn that water contains air; you can remind them it is everywhere. You may specify how underwater animals and plants breathe that air. Such comparisons may reinforce students' learning that air is essential to all life.

IV. The Unit Theme: An Introductory Narrative to Read to Students

How Air Is Used In Everything We Do

Something surrounds you all the time. You need it and use it. You can feel it, but you can't see it. The invisible cloak that covers everything is *AIR*. Fish live in a sea of water. You live in a sea of air, and air fills every place. It fills the caves underground and covers the highest mountains and buildings.



Birds, airplanes, and balloons fly in it. You walk and play right in it. Air contains a very important gas: oxygen. Oxygen is what all living things need to stay alive. Our lungs breathe in the air and keep the oxygen for our body's use.

The used air we breathe out contains another gas called carbon dioxide. This is the part of the air that plants breathe in through their leaves; then the plants breathe out oxygen for us to use. Animals and plants help each other by giving back the right kind of gas from the air that each one needs. Plants are living things too.

Air brings us the sun's heat, the fragrance of flowers, sounds of voices, music, horns, and parades. Without the air, your ears would never receive these sounds. Air pushes all around everything. This pushing is called air pressure. The pressure brings these sounds to you.

When you grill hamburgers outside on the grill, your nose receives the delicious smell of hamburgers cooking. That happens because the air pressure lifts and pushes the hamburger smell toward you. Without air, you would never know how a hamburger smells.

When you speak, air pushes through your vocal cords, and your mouth shapes the air to make words, noises, and the sound of your voice. That is how your friends can hear what you say. If we did not have air, no one would be able to get the sounds of people's voices, music, radios, or television. Why do you think that is true?

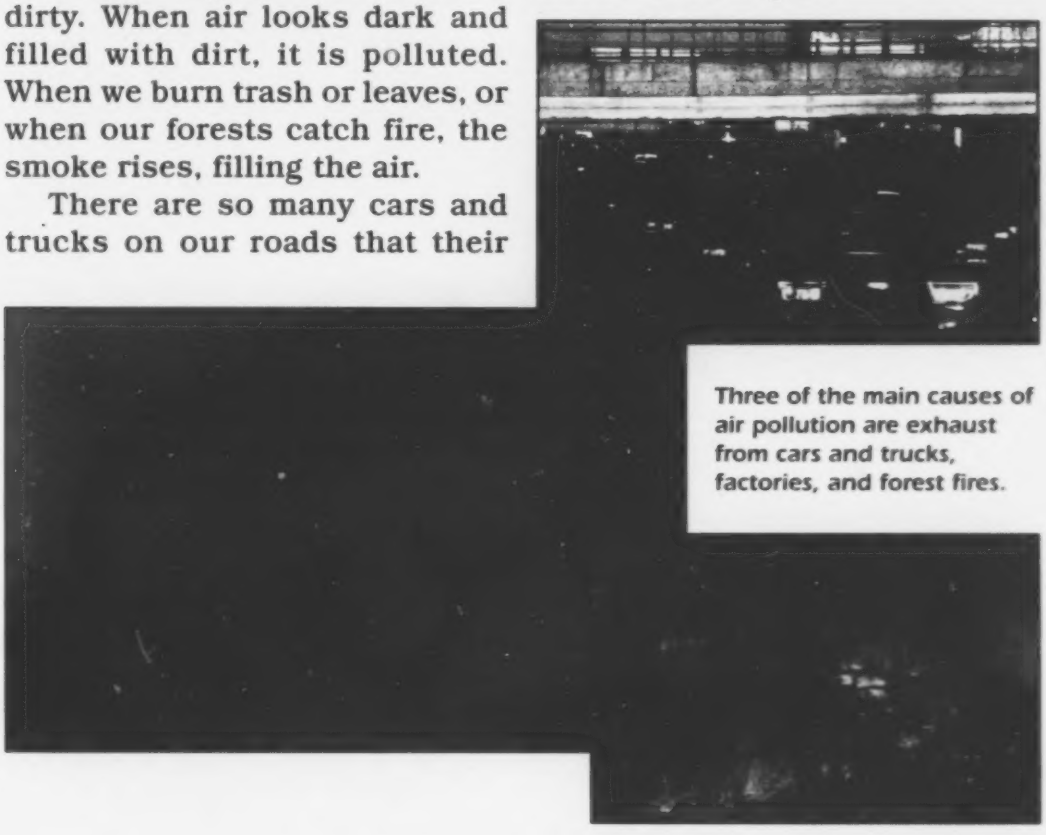
Can you imagine what it would be like if you and your best friend couldn't talk together?

IV. The Unit Theme: An Introductory Narrative to Read to Students (cont.)

Sometimes our air becomes polluted, or dirty. You think you can see the air when that happens. You don't, though. What you see is the dirt filling the air space. Most air pollution comes from people being careless. Factories burn trash and chemical waste that sends dirt and gases floating into the air.

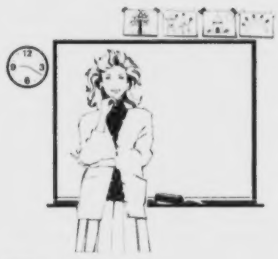
These things make the air look dirty. When air looks dark and filled with dirt, it is polluted. When we burn trash or leaves, or when our forests catch fire, the smoke rises, filling the air.

There are so many cars and trucks on our roads that their exhaust smoke fills the air with unhealthy fumes. Have you ever noticed how a busy street smells? Polluted, unhealthy air makes our throats sore, makes us cough, burns our eyes, and hurts our lungs. If we do not learn how to stop all this air pollution, we will have no clean air to breathe. Then we will be in serious trouble. We could not live in a place without a clean invisible cloak—the air. Who can live in such a spot?



Three of the main causes of air pollution are exhaust from cars and trucks, factories, and forest fires.

V. How to Use the Theme: Procedures for Demonstrating its Functions and Involving Children



1. Questions to Pose About the Narrative

These sample questions are just a start; they may lead you to others that will help students focus on the essential information in this unit.

1. What is air?
2. Where is air?
3. How does air taste and feel?
4. Why is it important?
5. How do you make bubbles?
6. What sounds does air make?
7. What is air conditioning?
8. What does the word "invisible" mean? If you can see it, what has happened? When you look at pictures of scenes with clean and polluted air, what do you notice? Can you compare the scenes of clean air with scenes of dirty air?

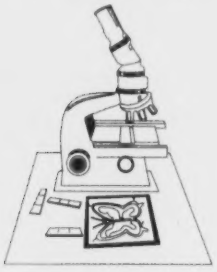
2. Listening to Literature: A Sample Text and How to Use it

Coerr, Eleanor. *The Big Balloon Race* (An *I Can Read* Book)

All her life, Ariel has wanted to fly in a balloon with her aeronaut mother, Carlotta. When she falls asleep in the balloon box, her mother almost loses a race.

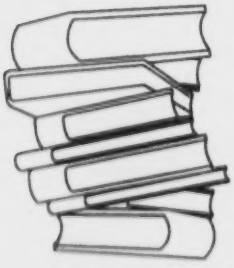
Read the story to the class. Stop at strategic points to discuss the plot and let children predict what will happen next. Connect the story to air as an invisible ocean surrounding everything.

3. Science Demonstrations



1. Use a barometer to measure air pressure.
2. Do hairdryer/plastic bag experiments.
3. Conduct experiments from Ardley's *The Science Book of Air* and Walpole's *Air*.
4. Blow up several balloons. Tie a string to each and let them rise to the ceiling. Then give the students bags. Have them try to "catch" air. Can they do that, why, why not? Can they see what they are trying to catch? Involve students in talking about the balloons; why did they rise? What is in them? Pop one balloon with a pin; why did it fall? Is it the same size after the air is gone? Why? What does this experiment tell you about air?
5. Have children blow up balloons and release them in the classroom. Elicit observations about the experience. Write student responses on an experience chart.

4. More Books for Response



1. Wade, Alan. *I'm Flying*
A little boy floats away with his balloon across mountains, plains, cities, and the sea—until he lands on a desert island.

2. Boon, Emilie. *Belinda's Balloon*
While picknicking in the park with her family, Belinda Bear is carried off by a magic balloon.

3. Gray, Nigel. *A Balloon For Granddad*
Unhappy when he loses his silver and red balloon, Sam is comforted by imagining it on its way to visit his grandfather in Egypt.

4. Haywood, Carolyn. *Away Went The Balloons*
Some of the balloons released on Balloon Day by the Blue Bell School first-graders go to very special people and places.

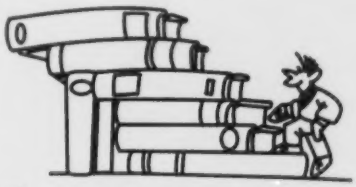
Options for Student Responses

1. Collect several books about air. Before the students start reading, have them analyze and discuss the pictures. What do these images show, what is happening? How do the pictures make the children feel?

2. Have each student read a small book, then describe it to the rest of the class.

3. Display pictures of hot air balloons. Ask students why they might enjoy flying in these balloons.

VI. Related Language Arts Activities



1. Listening and Discussion

- Listen to a radio weather report.
- Listen to any of the books listed in the next section. Ask students questions about the text and their reactions to it.
- Discuss what each of us can do about pollution.
- View and discuss a film about air pollution
- Invite speakers from the airport, pollution control, or emissions control. Have students prepare questions in advance.

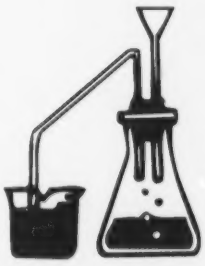
2. Individual and Group Writing

- After a speaker visits, add the information you have learned to your Learning Log.
- Write a story or a skit about the visit.
- Write letters to factories and businesses.
- Use response journals.
- Write a Fact Book about air, using pictures to tell the story. You can use the kite webs in Activity 4.
- Write a newsletter for your parents.
- Write a letter to the editor at a local newspaper.
- "Free write," using these ideas:
  If I could fly with my balloon I would....
  Flying up into the sky with my balloon would feel like....

3. Reading

- Read a book about air pollution with a buddy.
- Read to the class what you have written in your Fact Book or Response Journal.
- Read poems or stories in a small group, pausing for comments.

VII. Related Extension Activities: Using Language Arts to Teach Science in Personal or Small Group Work

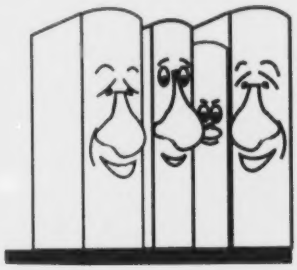


1. Individual and Team Projects

- Make pictures showing clean and polluted environments.
- Make balloon rockets.
- Make paper airplanes and kites.
- Make a mobile of pictures of air pressure.

2. Class Field Trips

- Visit the airport and discuss with officials what jobs they perform to keep the planes flying in the air.
- Visit a Pollution Control center, and have the staff discuss their work.



VIII. Trade Books

Non-Fiction

Ardley, Neil. *The Science Book of Air*

Bailey, Donna. *What Can We Do About Noise and Fumes?*

Branley, Franklyn. *Air Is All Around You*

Gay, Kathlyn. *Air Pollution*

Greene, Carol. *Caring For Our Air*

Gutnik Martin. *The Challenge of Clean Air*

Johnston, Tom. *Air, Air, Everywhere*

Llewellyn, Clair. *First Look In The Air*

Stille, Darlene. *Air Pollution*

Swallow, Su. *Air*

Walpole, Brenda. *Air*

Walpole, Brenda. *175 Science Experiments to Amuse and Amaze Your Friends*

Wilkins, Mary-Jane. *Air, Light, and Water*

Fiction

Boon, Emilie. *Belinda's Balloon*

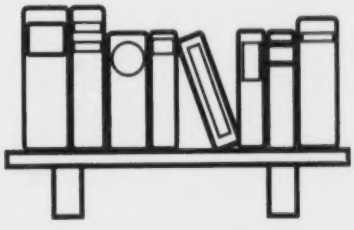
Bright, Robert. *Georgie and the Runaway Balloon*

Coerr, Eleanor. *The Big Balloon Race*

Gray, Nigel. *A Balloon for Grandad*

Haywood, Carolyn. *Away Went the Balloons*

Wade, Alan. *I'm Flying*

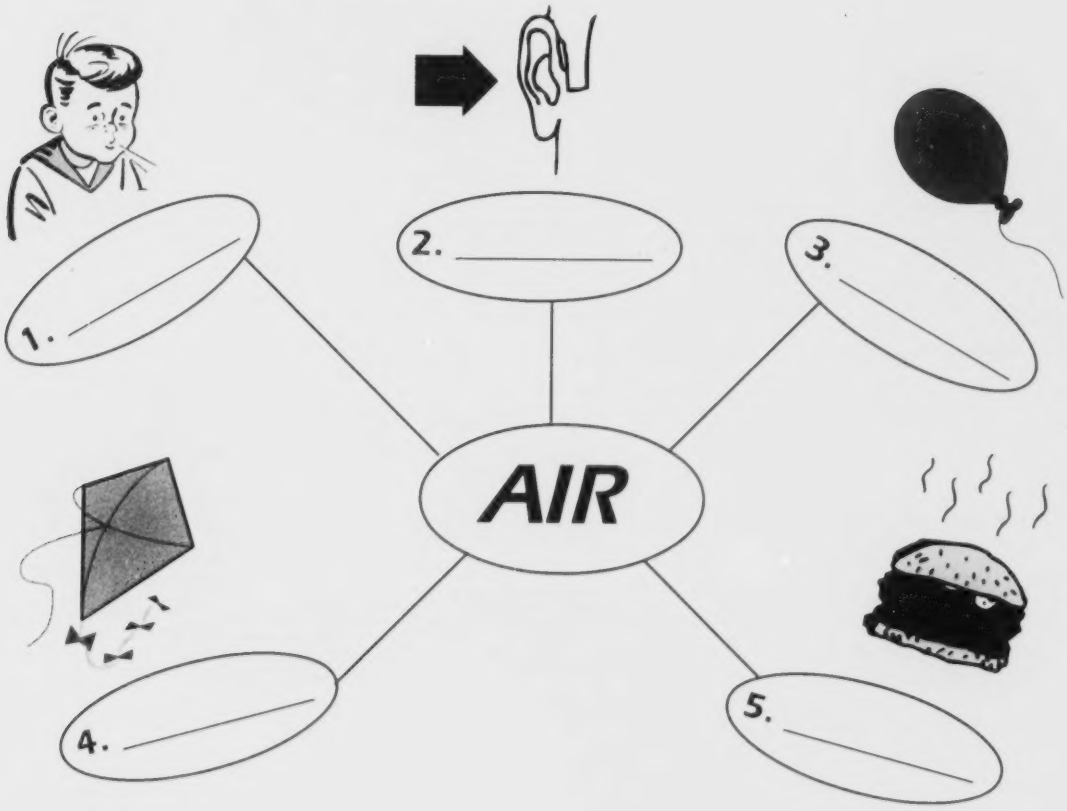


ACTIVITY 1

NAME _____

VOCABULARY WORDS: cloak, air, invisible, sound, fills, smell, lifts, breathe

DIRECTIONS: Use the vocabulary words to label the web that shows the effects of air.

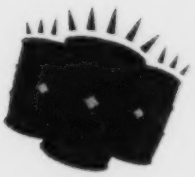


Finish these sentences:

1. We can't see air because it is _____.

2. Air covers everything like a _____.

ACTIVITY 2



NAME _____

VOCABULARY WORDS: polluted, factories, trash, chemical waste, exhaust, fumes, unhealthful, forests

DIRECTIONS: To complete each sentence, finish the word puzzles.

Our air gets polluted because...

1. _____burn trash and chemical waste.

2. _____from cars and trucks send out unhealthy fumes.

3. _____catch on fire and fill the air with smoke.

4. With all this dirt in the air, it has become_____.

Bring in pictures of air pollution to make a large class collage.

ACTIVITY 3

NAME _____

When air gets hot, it rises. This is what happens when a hot-air balloon lifts into the clouds. A blower pushes hot air into the balloon that is tied to a big basket. The hot air will fill the large balloon and lift it into the sky.

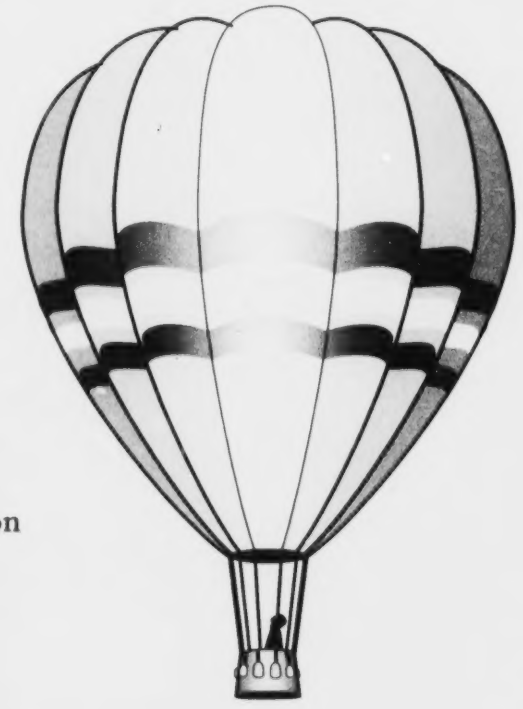
VOCABULARY WORDS: rises, basket, balloon, lifted, blower

DIRECTIONS: Look at the sentences. Something is wrong with each one. Rewrite each one correctly. Remember to use capital letters and punctuation.

1. hot air rises

2. you can ride in the basket

3. how does hot air get into the balloon



4. a blower pushes hot air into the balloon

ACTIVITY 4

NAME _____

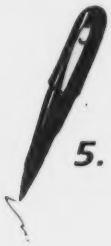
Here are things that work because of air pressure. How do you use each one? Write a sentence that tells what to do with each thing.

1. straw

2. vacuum cleaner

3. balloon

4. airplane



5. pen

6. barometer

1. _____

2. _____

3. _____

4. _____

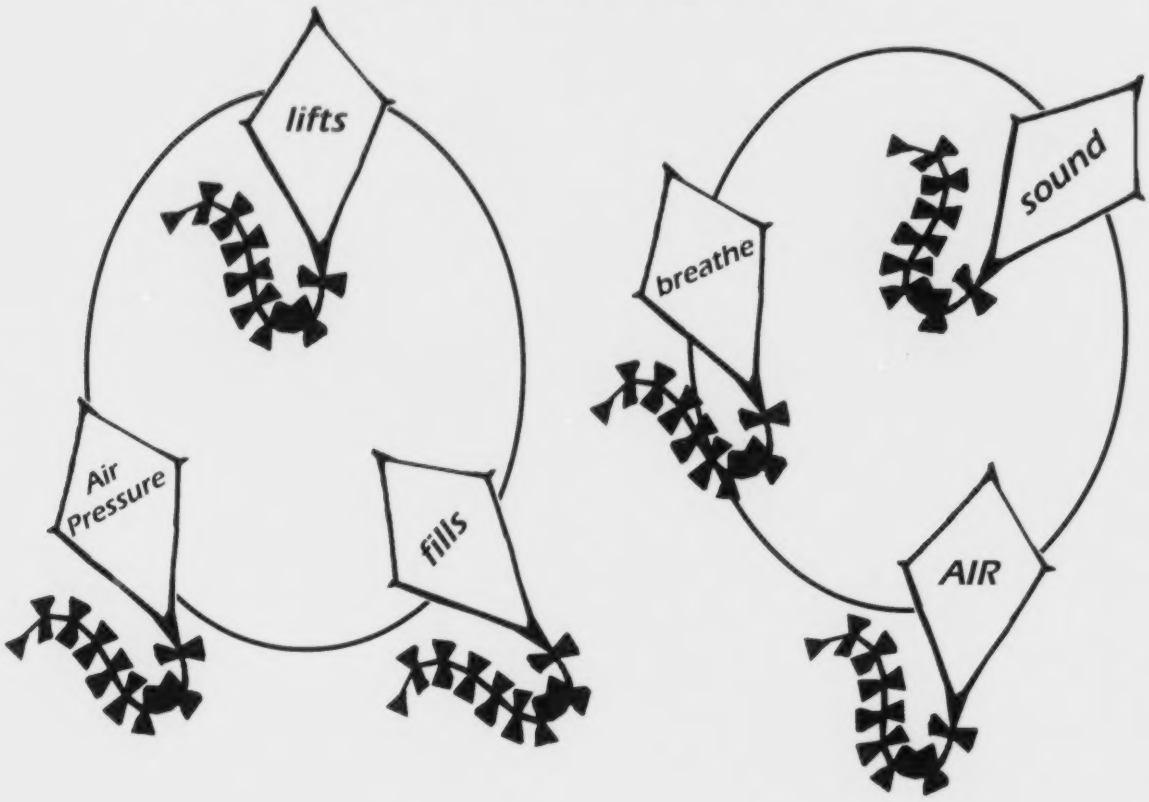
5. _____

6. _____

ACTIVITY 5

NAME _____

You have learned that air is important to you. Pick one of the topics from the kite webs and write a paragraph about that topic. Use all the words in the kites.



TITLE: _____

_____

_____

_____

_____

_____

Suggestions for Teachers

Activity 1

Use the vocabulary words to label the Web that shows the effects of air. Then complete the sentences at the bottom of the page.
1. breathe; 2. sound; 3. fills; 4. lifts; 5. smell;
Sentences: 1. invisible; 2. cloak

Activity 2

Use the sentence format to extend vocabulary study. Fill in each letter block below the sentence.
1. factories; 2. exhaust; 3. forests; 4. unhealthful

Accept all different types of illustrations from students, and oversee the making of the collage.

Activity 3

The short paragraph provides a contextual sample and vocabulary words. After reading the paragraph, discuss proper capitalization and punctuation. Students should rewrite the sentences to make them correct.

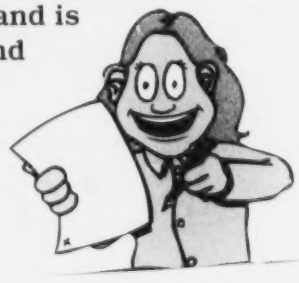
1. ***H***ot air rises.
2. ***Y***ou can ride in the basket.
3. ***H***ow does hot air get into the balloon?
4. ***A*** blower pushes hot air into the balloon.

Activity 4

Discuss the function of each object pictured. Make sure that the students recognize the pictures before writing sentences about each one. The students may work with a partner.

Activity 5

Discuss the characteristics of air that have been learned, such as air lifts, has pressure, fills space, carries sounds, and is breathed. Each student then chooses a topic and writes a paragraph about that topic. Remind your students to use the vocabulary words from other activities.



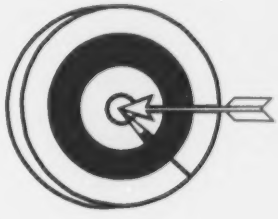
Unit 2:

All In A Day's Weather

I. Introduction: How the Theme Can Interest Students

All children know something about weather. They will remember when they couldn't go to a ball game or a park because it was raining. Or they may remember when they went to the beach when it was sunny and warm. Those living in snowy regions will remember making snowmen. However, they may not think about why weather changes. This unit helps children expand their knowledge.

II. Targeted Ideas



- Weather changes both with the seasons and within the seasons.
- Water comes in many different forms.
- We use many instruments to predict the weather.
- Weather results from interactions among air, water, and heat from the sun.

III. Making Connections

This unit works well with the previous one, *OUR INVISIBLE CLOAK, THE AIR*. Your students will be able to understand how wind and air cause changes in the weather.

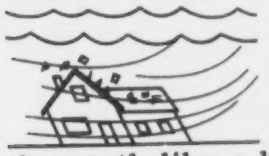
When you teach the next two units, *A DRY, DRY PLACE* and *A POND IS NOT A PUDDLE*, you can relate weather facts to these environments. What weather factors create extreme dryness and extreme moisture?

In teaching Volume III, **ANIMALS AROUND US**, you might discuss how weather affects an animal's choice of habitat. Unit 1 there, *SO MUCH LIKE US*, offers material that discusses the food supply: how does weather affect it?

IV. The Unit Theme: An Introductory Narrative to Read to Students

What Makes Weather Change

Have you ever stood at the window and watched the weather change right before your eyes? What has happened? Let's learn about some interesting things to watch for in the weather.



A blanket of air called the *atmosphere* wraps around the earth like a blanket. The air in the atmosphere is always moving, so it makes the weather change. Moving air is *wind*. You cannot see wind, but you can see what it does. As the wind runs into different temperatures, the weather changes right before your eyes.

You can start the day with a clear blue sky and warm air. The wind may build up and blow *clouds* over you. Clouds bring rain. For a while the sky will be gray and full of heavy rain clouds. Then, when the clouds get too heavy with water, they burst open and it rains.

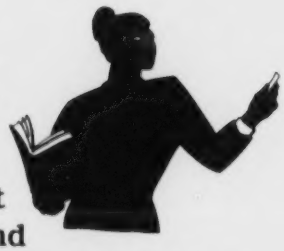
Each day you want to know how hot or cold the air is. We measure *temperature* with a *thermometer*. By watching the change in the temperature you can tell how the weather will change. When the air gets colder, the temperature drops and the water in the clouds changes from rain to snowflakes.

Many people think snow is just frozen rain, but it isn't. Clouds cool as the temperature drops, and ice grows around tiny specks of dust called *dust particles*. These particles always float in the air. You cannot see them, but they collect ice in the form of a six-sided flake that you can see.

Water falling from the sky as rain or snow is *precipitation*. *Sleet* is rain that passes through very cold air, freezing on the way down. If the frozen rain gets caught in strong winds that keep it from falling quickly, the pieces grow larger as they toss up and down. They become heavy *hailstones*. These hailstones can become as big as baseballs!

The sun also causes changes in the weather. The sun's heat mixes with the water that rises from oceans, lakes, and rivers. Where the water meets the air, the water *evaporates*, or changes to a gas you cannot see. This gas is called *vapor*. The water's journey is interesting to follow. This jour-

IV. The Unit Theme: An Introductory Narrative to Read to Students (cont.)



ney is called a *water cycle* because water comes back to us and then moves in a circle.

You can follow the numbered steps of the water cycle:

1. Water from lakes, oceans, rivers, and green plants gets hot from the sun. It changes to vapor and floats into the air.

2. As the vapor floats upward, it cools, and tiny droplets of water stick together to form clouds.

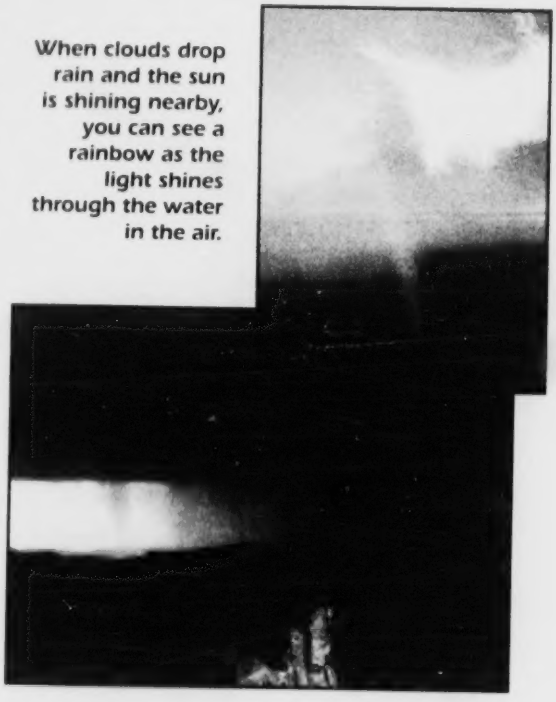
3. The water falls from the clouds as rain or snow.

4. When rain or snow settles on the ground or plants, the ground soaks up the water and the plants take a drink.

5. The water runs under the ground or in streams above ground, and fills the lakes and oceans. Now the water is back where it started, and can start a new journey into the air. That is why this process is called a water cycle.

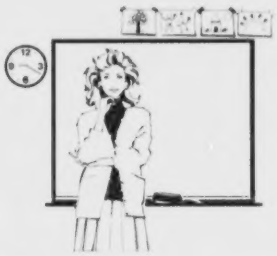
Now you know why you can watch the weather change right before your eyes. Let's become weather watchers and track each day's weather for one week. You will need a thermometer placed outside the window to watch changes in the temperature. Record what you see. Each day write down the temperature early in the morning, at noon, and at the end of the school day. Check to see if the changes in temperature caused changes in the sky. Did clouds form? Did it rain or snow? Or did the sun keep shining?

If you become a weather watcher, you will be doing what the weather reporters do on TV. They watch the weather changes and predict tomorrow's weather during the evening news. Maybe you would like to be a weather reporter when you become an adult.



When clouds drop rain and the sun is shining nearby, you can see a rainbow as the light shines through the water in the air.

V. How to Use the Theme: Procedures for Demonstrating its Functions and Involving Children



1. Questions to Pose About the Narrative

These sample questions are just a start; they may lead you to others that will help students focus on the essential information in this unit.

1. How does weather change?
2. What does a meteorologist do?
3. What different forms of water fall from the sky?
4. Why do we need to know the temperature when we dress?
5. How does a weather reporter on TV get information to predict the next day's weather?
6. How often does weather change?
7. Which instruments help to predict weather?

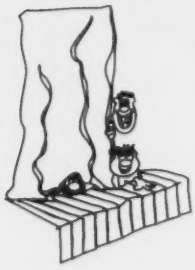
2. Listening to Literature: A Sample Text and How to Use it

Bauer, Caroline, ed. *Snowy Day: Stories and Poems*

A collection of poems and stories about snow.

Ask the students what they think it would be like to be in the snow. Write statements about their experiences with snow. Then use the poem *Snow* by Karla Kuskin.

Options for Student Responses.

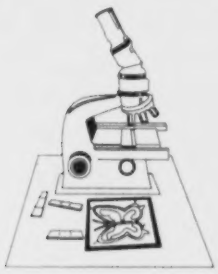


1. Read the poem to the class.
2. Divide it into stanzas: every four lines. Write the stanzas on cards. Have the whole class read the last three lines.
3. Divide the class into four groups. Give each group a stanza of the poem. Have them look for rhyming patterns in each stanza. Then each group can read their stanza as a chorus.
4. How many things can you do in the snow? Write responses on the board.

Options for Student Responses (cont.)

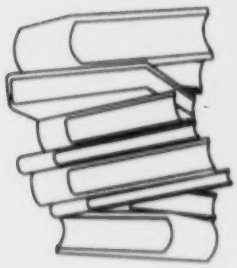
5. Have each child draw a favorite snow activity. Include their activities in a class book.
6. Display pictures of various weather scenes. Include pictures of weather instruments and outdoor activities during the different weather situations.
7. Make a class acrostic poem with the word:
   S
   N
   O
   W

3. Science Demonstrations



1. Using an outdoor thermometer and a rain gauge, become weather watchers. Watch the TV weather reports every day.
2. Track the weather on a map.
3. Chart the weather report.
4. Measure rainfall.
5 Make weather instruments.
6. Make a Weather Web to record students' concepts about weather.
7. Make a weather vocabulary chart. Make labels using these terms, and use them on weather pictures.

4. More Books for Response



1. Boon, Emily. *Peterkin's Wet Walk*

Peterkin's walk with his friends becomes dangerous when the rain begins. They must rely on the help of a friendly mushroom and deer.

2. Serfozo, Mary. *Rain Talk*

A child enjoys a glorious day in the rain, listening to the varied sounds it makes while falling.

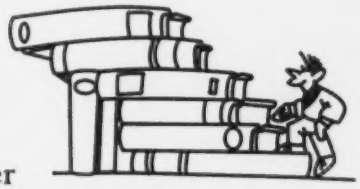
3. Smith, Stephanie. *Snow-Eyes*

In this fantasy, Snow-Eyes' absent mother returns as a servant of the goddess Trost and calls her, against her will, to the same service.

4. Zolotow, Charlotte. *Hold My Hand*

Two little girls take a walk on a snowy day.

VI. Related Language Arts Activities



1. Listening and Discussion

- Can you describe the weather today? Share your impressions with the class.
- Discuss what kinds of weather you like most and least, and why.
- Listen to taped trade books.
- Listen to a buddy read a story or poem.

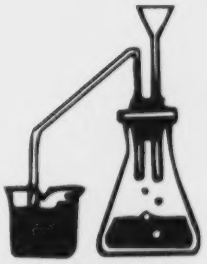
2. Individual and Group Writing

- Write an ABC book about the weather.
- Record daily weather.
- Write a weather journal.
- Write and perform a weather skit, story, or poem.
- Write and illustrate a story about being in a storm.

3. Reading

- Read *Peterkin's Web* to the class. Encourage discussion of the story and sharing experiences in the rain.
- Have students read books alone or with a buddy.
- In a small group read Spier's *Rain* and ask students to write a concept book about it.
- Read weather reports in the news.

VII. Related Extension Activities: Using Language Arts to Teach Science in Personal or Small Group Work

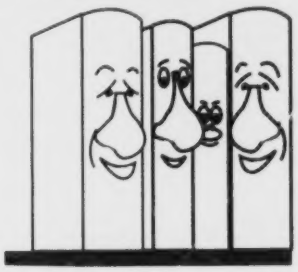


1. Individual and Team Projects

- Have a few students tape some of the trade books that are easiest to read. Put these tapes and books in a Learning Center, so students can use them as they write their own stories.
- Invite a weather forecaster to visit the class, and have students keep weather journals starting with what they learn from his/her visit.
- Discuss poems and stories about weather in small groups.

2. Class Field Trips

- Visit the local TV station and talk with a weather reporter.
- Visit the National Weather Bureau, have students ask the meteorologists about what they do.



VIII. Trade Books

Non-Fiction

Arvetis, Chris. *Why Does It Thunder and Lighting?*
Breiter, Herta A. *Weather*
Time-Life Book Editors. *Wind and Weather*
Hefter, Richard. *The Stickybear Book of Weather*
Jenning, Terry. *Weather*
Keller, Holly. *Will It Rain?*
Litchfield, Ada. *It's Going to Rain*
Pollard, Michael. *Air, Water, and Weather*
Spier, Peter. *Rain*
Tester, Sylvia. *Magic Monsters Learn About the Weather*
Webster, Vera. *Experimentos Atmospheric os/Weather Experiments*

Fiction

Ammons, A.R. *The Snow Poems*
Andersen, Hans Christian. *The Snow Queen*
Anholt, Catherine. *The Snow Fairy and the Spaceman*
Barrett, Judith. *Cloudy with a Chance of Meatballs*
Bauer, Caroline. *Snowy Day: Stories and Poems*
Blegvad, Lenore. *Rainy Day Kate*
Bonnici, Peter. *The First Rains*
Boon, Emilie. *Peterkin's Wet Walk*
Burkholz, Herbert. *The Snow Gods*
Butterworth, Nick. *One Snowy Night*
Dann, Colin. *In The Path of the Storm*
Hazen, Barbara. *It's a Shame About the Rain*
Hines, Anna G. *Taste the Raindrops*
Holl, Adelaide. *The Rain Puddle*
Horneck, Heribert. *Tracks in the Snow*
Humphries, Gillian. *Sam Cat: A Story About the Weather*
Jenkins, Jerry. *Daniel and the Big Blizzard*
Keats, Ezra J. *The Snowy Day*
Serfozo, Mary. *Rain Talk*
Smith, Stephanie. *Snow Eyes*
Tallon, Robert. *Little Cloud*
Zolotow, Charlotte. *Hold My Hand*

ACTIVITY 1

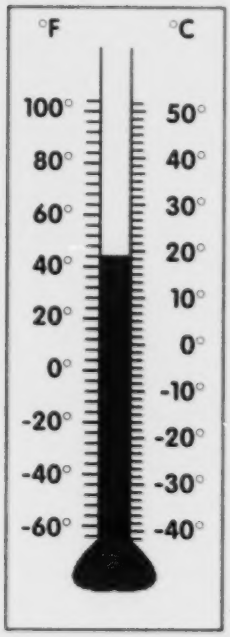
NAME _____

VOCABULARY WORDS: weather, temperature, atmosphere, thermometer, wind, rain, clouds, raindrops

DIRECTIONS: Use the vocabulary words to complete the sentences.

1. A blanket of air that wraps around our earth is called the _____.

2. The air in the atmosphere is always moving. Moving air is called _____. This _____ causes changes in our _____.



3. When the weather changes, the air gets hot or cold. This is called the _____. It is measured by a _____.

4. Sometimes the wind blows _____ into the sky. The clouds fill up with droplets of water or _____. When the clouds get heavy, it will _____. We need rain for crops and to fill the rivers and oceans.

There are two kinds of measurements for the temperature: the Fahrenheit scale and the Celsius (or centigrade) scale. One is abbreviated F; the other is abbreviated C. At the cold end, water freezes at 32 degrees Fahrenheit (32°F) or at 0 degrees centigrade (0°C). At the hot end, water boils at 212° F and 100° C.

What does this thermometer say? How many degrees F or C is it? Is that hot, cold, or in between?

_____

_____

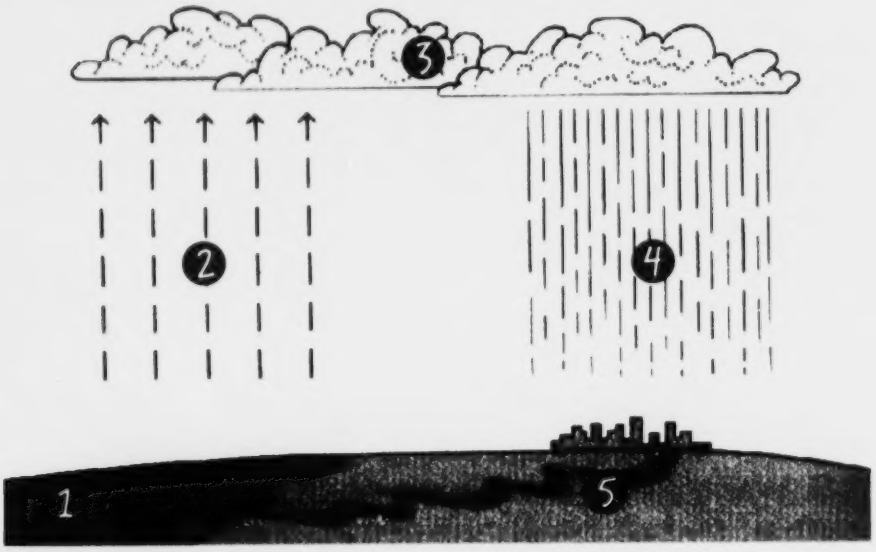
ACTIVITY 2

NAME _____

VOCABULARY WORDS: water, cycle, evaporation, rain, floats, clouds, vapor, streams

DIRECTIONS: Read this selection and track the water cycle. Refer to the picture to finish the exercise.

The water that rains runs in a circle. This round path is called a water cycle. Look at the picture. The steps that water takes in the water cycle are numbered.



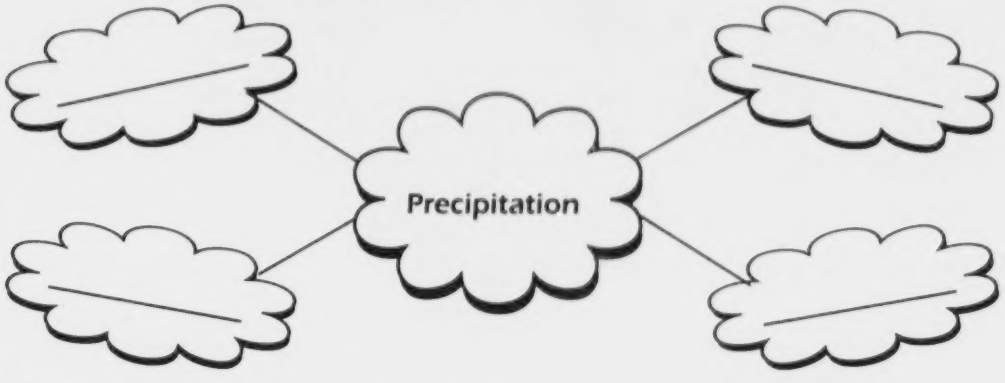
1. The ocean is made of _____.
2. The water gets hot, vaporizes, and floats up into the sky as _____. This is called evaporation.
3. It is colder up in the sky. There the floating vapor forms tiny drops of water that cluster together. This process forms _____.
4. Next the clouds give us _____. The rain falls back into our rivers and on the soil, starting a new cycle.
5. The water runs in _____, and fills the lakes and oceans.

ACTIVITY 3

NAME _____

VOCABULARY WORDS: precipitation, snow, sleet, dust particles, specks, flakes, hail, hailstones

DIRECTIONS: Using the vocabulary words, complete the web and the word puzzle.



1. In very cold air, ice grows around tiny specks of dust called _____ _____.

2. These specks grow into six-sided shapes called _____.

3. _____is rain that passes through very cold air and freezes on the way down to earth.

4. Strong winds toss the freezing rain and large pieces of ice form, called _____. They can grow as big as baseballs.

1.→

2.→ 3.→

4.→

ACTIVITY 4

NAME _____

VOCABULARY WORDS: rainy, cloudy, sunny, partly cloudy

RECORDING SYMBOLS

Sunny

Partly Cloudy

Cloudy

Rainy

DIRECTIONS: Use the symbols to chart the weather at school for one week.

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY

Answer these questions on Friday.

	Number	Day
1. How many days were sunny?	_____	_____
2. How many days were cloudy?	_____	_____
3. How many days were rainy?	_____	_____
4. How many days were partly cloudy?	_____	_____

ACTIVITY 5

NAME _____

DIRECTIONS: **Use this table to record the temperature for one week. Record the temperature in both Fahrenheit and Celsius/centigrade. Do this activity the same week that you use Activity 4.**

DAY	MORNING		NOON		AFTERNOON	
	°F	°C	°F	°C	°F	°C
MONDAY						
TUESDAY						
WEDNESDAY						
THURSDAY						
FRIDAY						

Read the information collected above to answer these questions:

1. Which day had the hottest temperature?_____
2. What was the lowest temperature? _____

   Which day? _____
3. Which day had the largest change in temperature? _____

   How many degrees did it change? _____
4. Look back to Activity 4. How high was the temperature on the sunny day? _____ Name the day. _____
5. Was there a rainy day? Name the rainy day. _____

   Write the temperatures (both °F and °C) of the rainy day.

   _____ °F _____ °C
6. Was the temperature on the rainy day cooler than the temperature on the sunny day? _____ How much cooler?_____

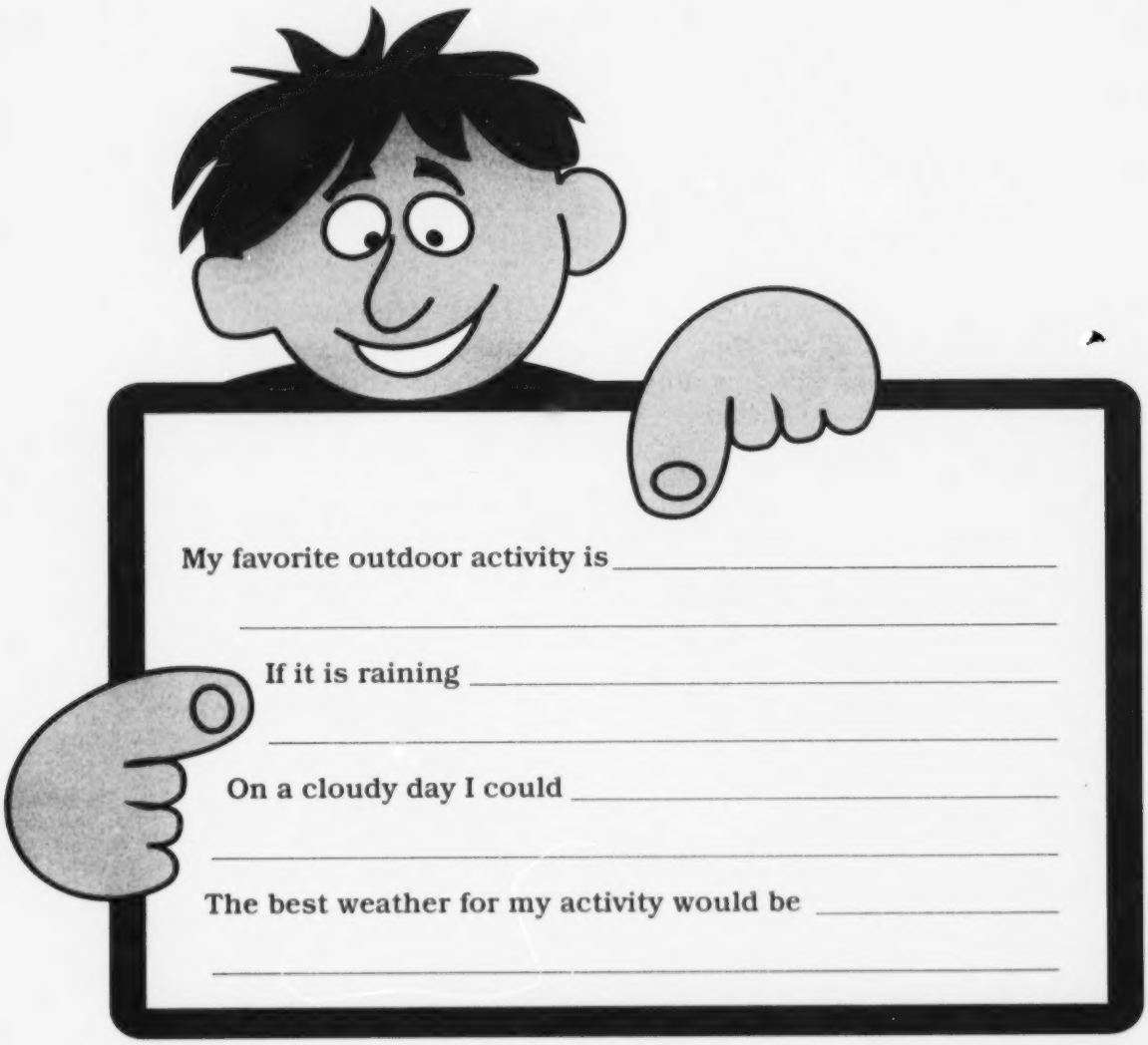
ACTIVITY 6

NAME _____

DIRECTIONS: Discuss favorite outdoor activities with a buddy. What kind of weather would you need to do what you like outside? Write your choices on cards.

picnic	playing ball	swimming	sailing

After you and your buddy have brainstormed together, finish the paragraph frame below.



My favorite outdoor activity is _____

_____

If it is raining _____

_____

On a cloudy day I could _____

_____

The best weather for my activity would be _____

_____

ANSWER KEY

Activity 1

Have students read the Unit Theme to find information about weather. They can use this information to complete the sentences.

1. atmosphere, air; 2. wind, wind, weather; 3. temperature, thermometer; 4. clouds, raindrops, rain.

Activity 2

After reading about the water cycle, assist students in tracking the water cycle path before completing the sentences.

1. water; 2. vapor; 3. clouds; 4. rain; 5. streams.

Activity 3

Read the vocabulary words together. Discuss their meanings as explained in the Unit Theme. Complete the web and the word puzzle.

1. dust particles; 2. flakes; 3. sleet; 4. hailstones.

Activity 4

Make copies of the weather symbols, and have students cut and paste to chart daily weather. Have students answer questions about the data. Answers will depend on weather observations.

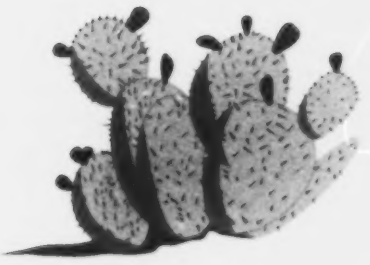
Activity 5

This page is a data collection record sheet. After recording the daily temperature, ask students to answer the questions. Answers will depend on temperature readings. Explain that in the gradual shift to the metric system, we need to develop a "feel" for how much is a centimeter, a kilogram, and a liter. If you help your students develop a "feel" for how hot 30°C is, or how cold 3°C is, that is better than forcing them to learn a mathematical formula for translating F to C.

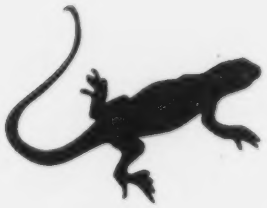
Activity 6

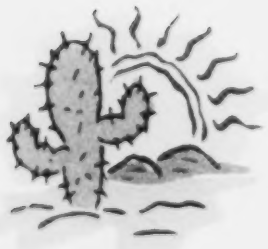
Lead a discussion about how weather affects our daily plans. Pair students to write about a favorite outdoor activity using the paragraph frame.

Unit 3:



A Dry, Dry Place

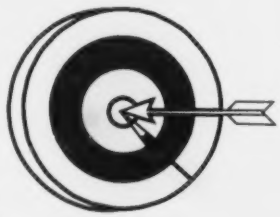




I. Introduction: How the Theme Can Interest Students

While most people in the U.S. may not know much about the desert, the children living in a dry, arid area will feel a part of this unit. You will want to have many pictures of the deserts in the U.S. and throughout the world. If possible, borrow some cactus plants for the classroom. You may want to build a terrarium with cacti and a small lizard for the science area.

II. Targeted Ideas



- The desert has different kinds of vegetation.
- Cacti can grow in a desert because it collects and stores water within the plant.
- Desert creatures usually sleep during the day and emerge at night to seek food.
- Rocks and sand give protection from the sun.

III. Making Connections

The desert offers many clear contrasts to the next unit: *A POND IS NOT A PUDDLE*. When teaching that subject, you might review conditions of dryness and how desert animals adapt to it. Students will note that pond creatures could not live in a desert puddle. Pictures and text about a frog or a lizard may prompt questions, comparisons, stories, poems, and drawings.

You might also compare the lizard when discussing the first unit in Volume III, *SO MUCH LIKE US*. Doing so will help students remember that even desert animals need food and shelter.

IV. The Unit Theme: An Introductory Narrative to Read to Students

How Plants and Animals Survive in the Desert

During the day this place gets very hot. The sun beats down on sand and rocks. It seldom rains. The air is still, and no living thing seems to move. This very dry place is a desert.

Who can live in such a spot? This arid place is actually very alive. During the day the living things hide under rocks to escape the hot sun. They come out only at night, to find food and water. Let's look at some of the interesting animals and plants that live in the desert.

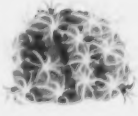
Many lizards and snakes live here. They stay under rocks until the cool of night comes. Then they come out to move around in search of food. The lizards hunt insects. The snakes look for rodents such as mice and chipmunks.

A small desert toad is called the spadefoot toad. While it is dry this toad stays asleep, buried in the sand. When heavy spring rain comes, the toad emerges to find newly formed ponds made by the rain. The toad lays eggs in these puddles. New tadpoles hatch from the eggs. After the tadpoles grow into toads and the pond dries up, the toads must burrow into the sand again. Spadefoot toads can sleep for almost a year.

These are just a few of the interesting animals in the desert. But special plants live here too. Only plants that don't need much water can survive here. Such plants must have the ability to hold what little water they get.

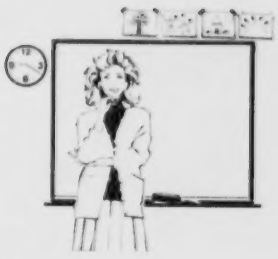
The most common special plant here is the cactus, which comes in hundreds of varieties. They are special for the desert because they store water. Their leaves are very thick and smooth. The inside is soft because of the water stored there. The outer skin has a covering that prevents water from escaping. The skin also has needles on it. These needles protect the cactus from being eaten by animals who want the water inside it.

Prickly Pear



Barrel Cow Tongue Saquaro

V. How to Use the Theme: Procedures for Demonstrating its Functions and Involving Children



1. Questions to Pose About the Narrative

These sample questions are just a start; they may lead you to others that will help students focus on the essential information in this unit.

1. How is a desert different from where you live?
2. How do lizards and snakes shelter themselves?
3. How does a cactus manage to live in the desert?
4. How can you take care of cacti in your classroom?
5. What is the purpose of the cactus' needles?
6. Which kinds of animals live in the desert?

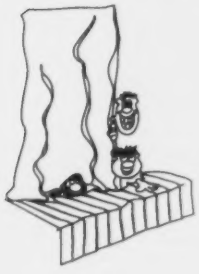
2. Listening to Literature: A Sample Text and How to Use it

Baylor, Byrd. *Desert Voices*

Desert inhabitants describe the beauties of their home. Buzzard, Coyote, Rattlesnake, Cactus Wren, Jackrabbit, and Lizard are among the creatures that offer poetry about their lives. Charming colored illustrations capture both them and their habitat.

As you read the book to students, pause to discuss the text and pictures. Elicit reactions to them. Your students may not know the rarer animals, so pictures of them that you display may encourage their questions.

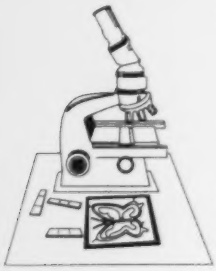
Options for Student's Response.



1. Free-write about the desert and these animals. If you went there, what would you need to take? Would you want to get close to these creatures?
2. Read the book with a buddy and retell others what the animals say.
3. The buzzard does not kill animals. What *does* it eat?
4. What does the pack rat gather?

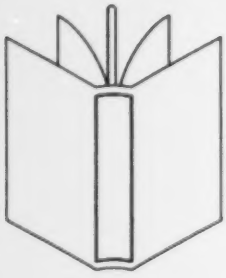
5. Role-play several animals in a skit.
6. Give five adjectives about the coyote. What does it sing about?
7. After the reading select from these choices:
   a. Make your own illustration for a scene from the book.
   b. What character would you like to be? Write about that character.
   c. Make a diorama of your favorite scene.

3. Science Demonstrations



1. Use a Venn diagram to compare desert animals with animals in other habitats.
2. Make a sand terrarium.
3. Show a cactus plant, and reread what the Unit Theme says about cacti. Cut open a cactus leaf to see the thick pulp inside and the smooth outer skin. Show pictures of many cacti varieties.

4. Other Useful Books



Add your own favorite titles that are relevant to this unit.

1. _____

Summary:

2. _____

Summary:

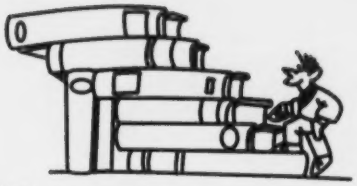
3. _____

Summary:

4. _____

Summary:

VI. Related Language Arts Activities



1. Listening and Discussion

- Interview a speaker from the zoo.
- Listen to any of the trade books listed below.
- Listen to stories and poems by peers.
- Locate some major deserts on a world map. Study pictures of these deserts. What do you see there? Does it look inviting? Why don't many trees or grasses grow there? Brainstorm about that problem.

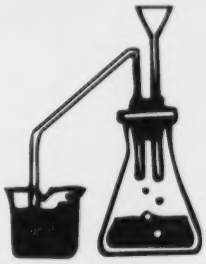
2. Individual and Group Writing

- Create a fact/picture book on desert plants.
- Write and perform a skit based on Pavey's *I'm Taggarty Toad.*
- Keep Learning Logs about desert plants and animals.
- Write and illustrate your own story about your favorite desert animal. Read it to the children and ask for responses.

3. Reading

- Read books in class, then describe them to others in a small group.
- Read stories, Learning Logs, or fact books you have written to other students.
- Look at books about all forms of life in the desert. Compare these deserts with the land and life in your own environment.

VII. Related Extension Activities: Using Language Arts to Teach Science in Personal or Small Group Work

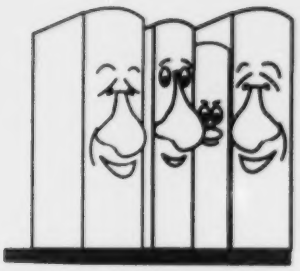


1. Individual and Team Projects

- Make a desert scene mural, guide other students through it.
- Use colored sand for a sand picture.
- Collect desert facts for a bulletin board.
- Design postage stamps of favorite desert animals.

2. Class Field Trips

- If you live in or near a desert, explore it, integrating all the students have learned about plant and animal life there.
- If you live near a university or national research center, visit an expert in desert ecosystems. Have children prepare questions to ask such specialists about what they do.



VIII. Trade Books

Non-Fiction

Arvetis, Chris. *What Is a Desert?*

Barrett, Norman. *Deserts*

Bronin, Andrew. *The Desert: What Lives There*

Catchpole, Clive. *Deserts*

Clarke, Barry. *Amazing Frogs and Toads*

Cobb, Vicki. *This Place is Dry*

Dallinger, Jane. *Frogs and Toads*

Fichter, George. *Poisonous Animals*

Graham, Ada. *The Changing Desert*

Hess, Lilo. *That Snake in the Grass*

Lye, Keith. *Deserts*

Posell, Elsa. *Deserts*

Stone, Lynn. *Deserts*

Twist, Clint. *Deserts*

Fiction

Baylor, Byrd. *Desert Voices*

Coville, Bruce. *Jennifer Murdley's Toad*

Knox, Joann. *Tamar and the Desert Adventure*

L'Engle, Madeleine. *Dance in the Desert*

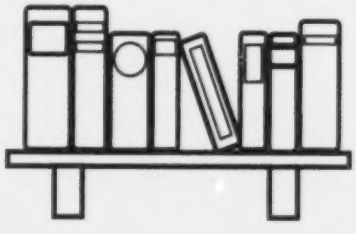
Pavey, Peter. *I'm Taggarty Toad*

Yolen, Jane. *Commander Toad and the Planet of the Grape.*

_____, *Commander Toad and the Big Black Hole*

_____, *Commander Toad and the Intergalactic Spy*

_____, *Commander Toad and the Space Pirates*

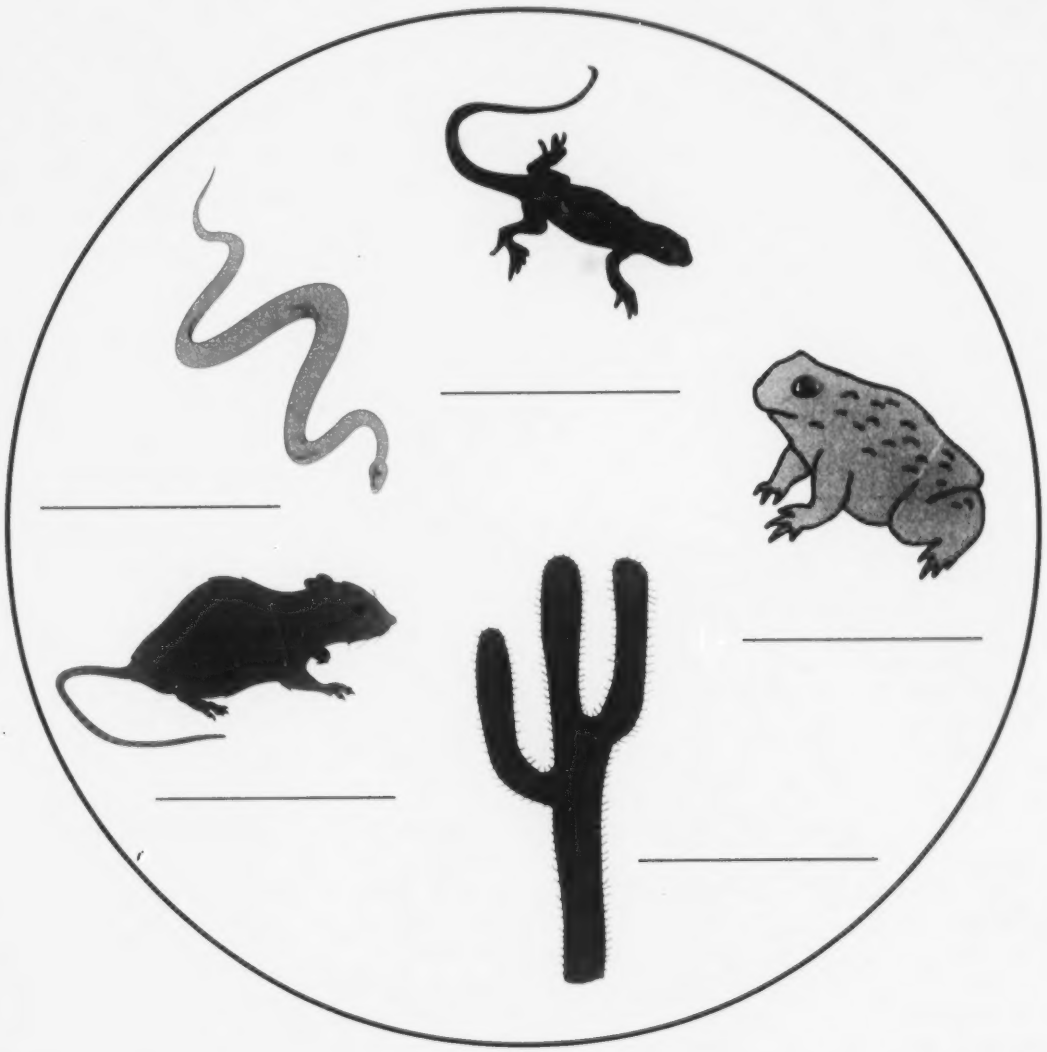


ACTIVITY 1

NAME _____

VOCABULARY WORDS: desert, dry, cactus, cacti, snake, lizard, toad

DIRECTIONS: Find these living things in the picture. Write the names below each picture. Connect the animals with a line.



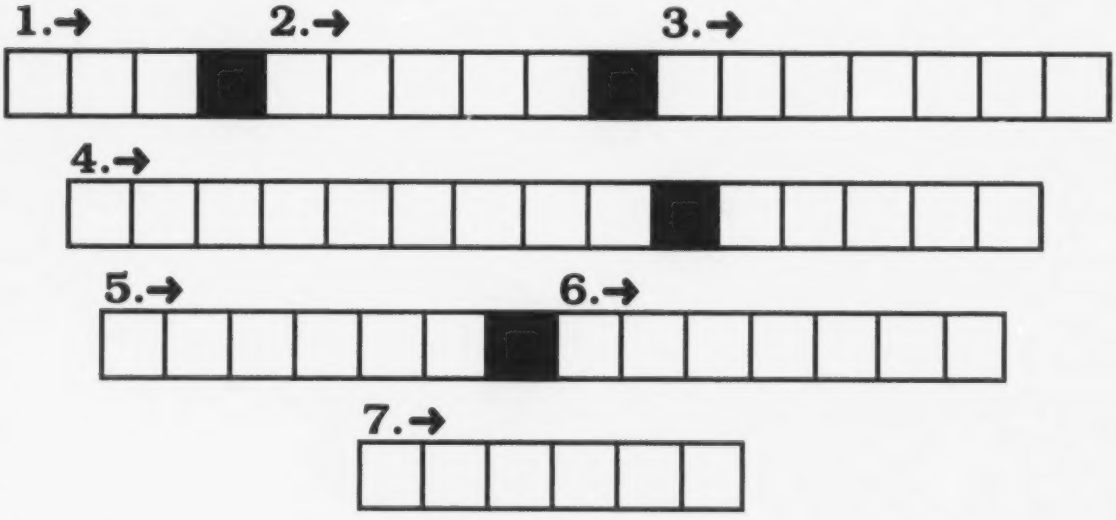
ACTIVITY 2

NAME _____

VOCABULARY WORDS: spadefoot toads, insects, rodents, desert, dry, snakes, lizards, cactus, rain, stores, thick, leaves, night

DIRECTIONS: Fill in the blanks, then finish the word puzzle below.

1. The desert is not a wet, cool place. It is a _____, hot place.
2. Desert animals do not look for food during the day. They look for food at _____.
3. Lizards look for _____ to eat.
4. _____ _____ stay buried in sand when the weather is dry.
5. _____ come out when the rains come.
6. Snakes look for _____ _____ to eat.
7. The _____ stores water in its thick leaves.



ACTIVITY 3

NAME _____

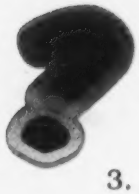
TURN IT AROUND

DIRECTIONS: The sentences TELL about life in the desert. Can you make the words ASK questions? Rewrite each sentence to ask a question. Put a question mark at the end of each question.

1. Lizards stay under rocks.

_____

2. The toad sleeps buried under the sand.



_____

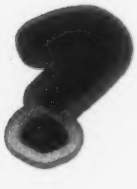
3. The spadefoot toad can sleep for almost a year.

_____

4. Snakes eat mice.

_____

5. A cactus stores water in its leaves.



_____

ACTIVITY 4

NAME _____

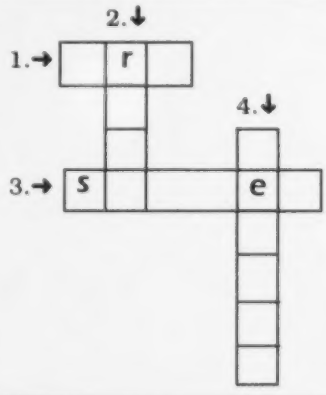
VOCABULARY WORDS: rodents, leaves, dry, thick, desert, stores, cactus, lizards, spadefoot, rain, snakes

DIRECTIONS: Separate the words into two groups. Write the one-syllable words in the left column. Write the two-syllable words in the right column.

ONE-SYLLABLE	TWO-SYLLABLE
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Four words in the left column have a LONG vowel sound. Write these four words in the puzzle below.

1. Not wet.
2. Drops from a cloud.
3. They eat mice.
4. Where cacti store water.



NAME _____

DIRECTIONS Read the paragraph below. Then describe the steps of the toad's life. What happens first, second, third, and fourth?

When the spring rains come, the female Spadefoot Toad hunts for a pond. First she lays eggs in the puddle. Then new tadpoles hatch. Next these tadpoles grow into toads. Finally the new toads return to burrow in the sand and sleep until the next wet spring.

First, _____

_____

_____

Second, _____

_____

_____

Third, _____

_____

_____

Fourth, _____

_____

_____

Suggestions for Teachers

Activity 1

List the vocabulary on the board. Show pictures of each item, and compare to the Activity page. Clockwise from the top: lizard, toad, cactus, mouse, snake.

Activity 2

Use the sentence format to extend vocabulary study. Have students use syntactic and semantic cues to complete each sentence.

1. dry; 2. night; 3. insects; 4. Spadefoot Toad;
5. snakes; 6. rodents; 7. cactus

Activity 3

Lead a discussion about types of sentences, such as a declarative statement or a question. Give groups of students the sentences on sentence strips. Let them cut the words apart and rearrange them to form a question, and then place a question mark at the end.

1. Do lizards stay under rocks? 2. Does the toad sleep buried under the sand? 3. Can the Spadefoot Toad sleep for almost a year?
4. Do snakes eat mice? 5. Can a cactus store water in its leaves?

Extra: Have students collect pictures of animals and plants in the desert. Make a class collage of all collections.

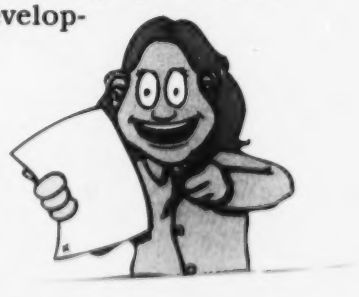
Activity 4

Review the concept of *syllable* with the class. Pass out word cards containing one- or two-syllable words. Ask the students to place the cards in the appropriate column to denote the number of syllables for each word.

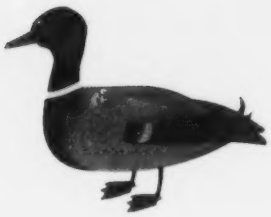
One syllable: leaves, dry, stores, rain, thick.
Two syllables: rodents, cactus, lizards, desert, spadefoot.

Activity 5

Discuss the stages of a toad's lifecycle. Read the paragraph about a Spadefoot Toad with the class. The stages of development are:



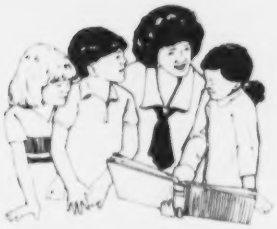
FIRST: eggs.
SECOND: tadpoles.
THIRD: toads.
FOURTH: hibernation.



Unit 4:

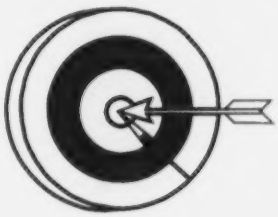
A Pond Is Not a Puddle

I. Introduction: How the Theme Can Interest Students



It will surprise the children to investigate a pond and find so many interesting things happening there. You will want to have many pictures of ponds and the creatures living there. A comparison of the children's own community and a community of pond creatures will help them develop a small view of each creature's importance—just like a person in the human community. Highlighting this comparison is a good way to introduce the necessary diversity in both kinds of society.

II. Targeted Ideas



- Rain causes differences between a pond and a puddle.
- A community lives in the pond.
- Diverse creatures live in the pond.
- Each pond animal is important for the life of the community.

III. Making Connections

This unit compares well with the previous one, *A DRY, DRY PLACE*. Ask students why they would not expect to find lizards or cacti near a pond.

This unit also relates well to Unit 3, *MORE THAN A FISH*, in Volume III, ***ANIMALS AROUND US***. There students learn that whales live in communities too; here is material for comparison. Relative size is an obvious topic: each creature needs a place that accommodates its own size.

Similar helpful comparisons may emerge from studying the other animals in that Volume too. For instance, why couldn't a guinea pig live in a pond?

IV. The Unit Theme: An Introductory Narrative to Read to Students

A Pond Is Home to a Community of Creatures

The paragraphs below are numbered, to help students locate specific facts. These numbers may offer a safety net for their attempts to find answers to your questions.

1 Do you watch puddles during a hard rain? Have you ever gone out and splashed in the puddles? Did you see anything living in the puddles?

2 Have you ever seen a pond and thought it was just a puddle? A pond is more than a puddle. It is a community, a place where many living things flourish. Just as your neighborhood is a community where you and your family and friends live, ponds are neighborhoods where frogs, fish, toads, and insects live. Let's walk with our mind's eye through the pond community to see who lives there.

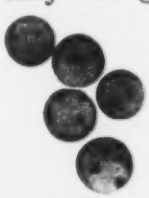
3 Near the pond's edge the water is shallow. When a breeze blows across the water, small ripples stir. A bullfrog jumps from a floating lily pad. The frog is just one member of the pond community. Many other animals live there.

4 A family of ducks will swim across the pond. They nest near the shore and hide in tall water weeds. They eat plants called pondweed and dive for small fish and mollusks. Mother ducks raise their babies right near the pond.

5 Different kinds of fish live here. They might stay near the muddy bottom for shelter and for food growing in the mud. They must be very careful not to get caught by ducks and other birds, who dive into the pond for food.

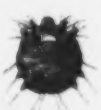
6 Every plant and animal is important to pond life. Some are so small you cannot see them without a microscope. One little animal is the *amoeba* (uh-mee-bah). The amoeba turns dead plants into good soil. Another tiny living thing is *algae* (al-jee).

amoeba



algae

Algae are plants, not animals. They are usually green, and look like beads or flowers. Animals floating near or on the water's surface, such as water mites, eat algae. They look like spiders and breathe air, but they can stay under water for up to an hour. Some fish living in the pond eat water mites.



mite

IV. The Unit Theme: An Introductory Narrative to Read to Students (cont.)

7 Snapping turtles are the biggest animals in the pond. They stay in the mud through the winter. When spring comes, they move to a hole in the ground near the pond. Here they lay eggs.

8 Other animals staying near the pond are salamanders and frogs. Salamanders look like tiny dinosaurs. They must stay wet to breathe. They breathe through their skin.

9 Frogs lay eggs in the pond. After hatching, they become tadpoles in just a few days. Tadpoles look like little fish. In less than four weeks they become full-grown frogs. Frogs like to sit on lily pads in the sun and catch insects to eat.

10 These plants and creatures are only a few of the members living in a pond community. You can see that a pond is a busy place to live, just like your community.

11 The next time you see a pond, will you think it is just a puddle? Never again! Now you know it makes a home for many interesting living things.

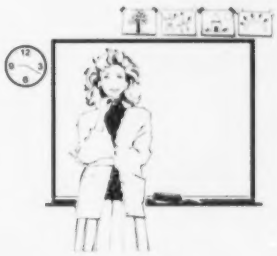
snapping turtle

frog

salamander

A pond has many places for plants and animals to live and grow.

V. How to Use the Theme: Procedures for Demonstrating its Functions and Involving Children



1. Questions to Pose About the Narrative

These sample questions are just a start; they may lead you to others that will help students focus on the essential information in this unit.

1. What is a community?
2. Who lives in a pond?
3. Who lives in a puddle?
4. Why is the pond important for the duck?
5. Where do you usually find ponds?

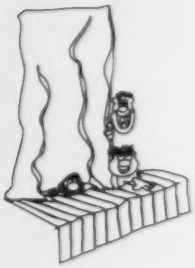
2. Listening to Literature: A Sample Text and How to Use it

Teague, Mark. *Frog Medicine*

Elmo Freem gets stuck on doing a report on frog medicine. Then Elmo has a real change of heart when he begins to turn into a frog himself.

Remove the book's cover, spread it out, and examine it. What is happening? Elmo seems to be in his bedroom, but so is a pond, a cat, and a frog doctor.

Options for Student Responses.

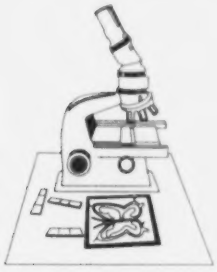


1. Free-write about everything you remember seeing on the cover of the book.
2. What do you think this story is about?
3. How did Elmo get his frog feet? Write down what you think is the explanation.
4. What do you think Dr. Galoof will do for Elmo?
5. What will you find in Frog Town? What about pond streets?
6. How do you think Elmo will get rid of his frog feet?

Options for Student Responses (cont.)

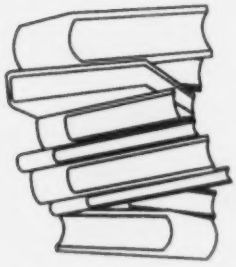
7. After you have heard or read the book, try any of these activities:
   a. Draw a mural depicting Frog Town.
   b. Become Elmo, acting out a scene with a friend.
   c. Collect pictures of life in a pond.
   d. Make a fact book about frogs and illustrate each fact.

3. Science Demonstrations



1. Make a KWL chart of life at a pond.
2. Graph animals observed at the pond.
3. Observe and note stages of the frog cycle in a tank: from egg to tadpole to adult frog.
4. Investigate the hibernation of some pond creatures.
5. Compare different kinds of ponds.
6. Compare different kinds of frog ponds, butterflies, fish, birds, plants, animals and insects.
7. Look at pictures of different ponds. Study each picture and note details. What do you see living there? What kind of plant life grows around and in the pond? Develop a web of comments about these ponds.

4. More Books for Response



1. Dauer, Rosamond. *Bullfrog Builds a House*

Not wanting to forget any important items for his new house, Bullfrog seeks advice from Gertrude. When he's done, he finds he has overlooked one thing.

2. George, William T. *Beaver at Long Pond*

As the other animals at Long Pond settle down for the night, Beaver leaves his lodge, begins searching for food, and starts his nightly adventure.

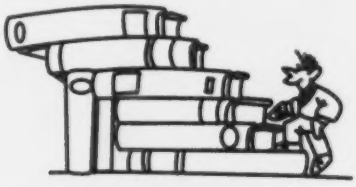
3. Quackenbush, Robert. *Detective Mole and the Haunted Castle Mystery.*

Detective Mole investigates strange noises, disappearing guests, and the mystery of the hidden treasure at the Castle of the Rabbit family.

4. Thompson, Pat. *Thank You For the Tadpole*

A father helps his son decide on a birthday present for a special friend.

VI. Related Language Arts Activities



1. Listening and Discussion

- Tape the Unit Theme and/or parts of books about ponds. Keep the tapes in a Learning Center, so students can use them readily.
- Have students listen to stories or poems that their peers have composed.
- Take a walk yourself in a pond area. Use a tape recorder to record the sounds of nature and your own observations and thoughts. Play the tape for students in class, ask them for their reactions.

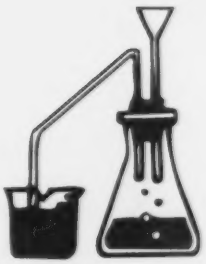
2. Individual and Group Writing

- Write an acrostic poem about life in the *pond*.
- Keep a Learning Response Journal.
- Write a concept poem or book about ponds. Include a fact about the pond on one page with an illustration on the facing page.
- Write *A Pond Tale*. Take on the character of a pond creature. From that character's viewpoint make up a story that describes a day in the life of the pond.
- Make an alphabet book about ponds. For each letter of the alphabet, draw something related to the pond and describe it.
- Write and perform a skit about your *Pond Tale*.
- Write a letter to a Congressperson about pond conservation.

3. Reading

- Collect several books about ponds and life in them. Pass them around to small groups, ask students to discuss with each other what they find in the books. Keep the books available at the Learning Center.
- Form small groups and have students read a concept book to the others in their group.

VII. Related Extension Activities: Using Language Arts to Teach Science in Personal or Small Group Work

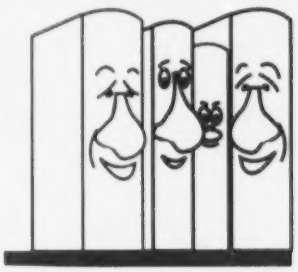


1. Individual and Team Projects

- Invite a ranger or an environmentalist to the class. Have small groups of students prepare interview questions to ask the visitor. Inquire about ways the class can become involved in water conservation.
- Have students perform skits about life in and around the pond. They can also design scenery and costumes where appropriate.
- Students can make puppets like pond animals. Have them carry on conversations among pond animal puppets.

2. Class Field Trips

- Take a field trip to a pond. Students can converse with each other about what they see.
- Visit a local natural history museum, look for exhibits and information on the pond culture.



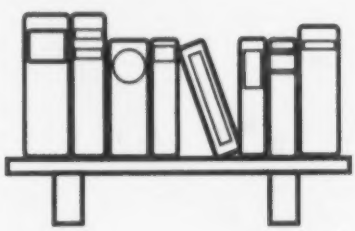
VIII. Trade Books

Non-Fiction

Amos, Wm. H. *Life in Ponds and Streams*
Cochrane, Jennifer. *Plant Ecology*
Cristini, Ermanno. *In the Pond*
Cox, Rosamund K. *Flowers*
Curran, Eileen. *Life in the Pond*
Florian, Douglas. *Discovering Frogs*
Harlow, Rosie and Gareth Morgan. *175 Amazing Nature Experiments*
Kirkpatrick, Rena K. *Look at Pond Life*
Lavies, Bianca. *Lily Pad Pond*
Michels, Tilde. *At the Frog Pond*
Roberts, Mervin. *Turtles*
Schwartz, David. *The Hidden Life of the Pond*
Snow, John. *Secrets of Ponds and Lakes*
Tordjman, Nathalie. *The Living Pond*
Wyler, Rose. *Puddles and Ponds*

Fiction

Dauer, Rosamond. *Bullfrog and Gertrude Go Camping*
DeLuca, June M. *The Lily Pad Four and Friends*
Faulkner, Keith. *Boastful Bullfrog*
George, William T. and Lindsay B. *Beaver at Long Pond*
McCloskey, Robert. *Make Way for Ducklings*
Napoli, Donna Jo. *The Prince of the Pond*
Prelutsky, Jack. *The Random House Book of Poetry for Children*
Quackenbush, Robert. *Detective Mole and the Haunted Castle Mystery*
Teague, Mark. *Frog Medicine*
Thomson, Pat. *Thank You for the Tadpole*
Wiesner, David. *Tuesday*
Ziefert, Harriet. *Mr. Rose's Class*



ACTIVITY 1

NAME _____

VOCABULARY WORDS: community, fish, shallow, bullfrog, ducks, lily pad, pondweed

DIRECTIONS: This lesson will help you find information. Read each item and find the number on the Key next to it. The number on the key stands for the paragraph number in the Unit Theme where you can find the answer. Match each statement to the correct vocabulary word.

1. A place where many things live is a...

_____

2. The water is not deep, it is...

_____

3. They nest in tall, water weeds.

_____

4. A bullfrog sits on a ...

_____

5. Ducks eat this weed.

_____

ACTIVITY 2

NAME _____

VOCABULARY WORDS: amoeba, microscope, algae, mite

DIRECTIONS: This activity will help you locate information. Each answer to be filled into the blank is keyed with the Paragraph number and Line number (P___,L___) where you can find the answer in the Unit Theme.

POND LIFE

1. An amoeba is so tiny that you cannot see it with your eyes. You need to use a _____.
   (P6, L4)

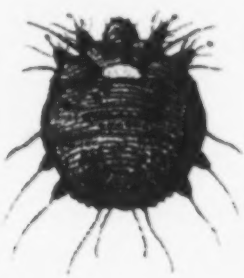
2. The _____turns dead plants into good soil.
   (P6,L6)

3. Tiny plants that look like beads or flowers are _____.
   (P6,L10)

Match each picture to the correct name:

mite

algae



amoeba

ACTIVITY 3

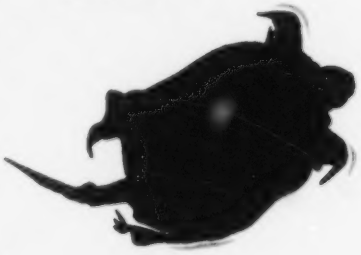
NAME _____

VOCABULARY WORDS: snapping turtle, frog, salamander, tadpole

DRAW A LINE from the statement to the correct picture.

1. The biggest animal in the pond.

2. They keep their skin wet to breathe.



3. These hatched frogs look like little fish.

Find the words:

amoeba
tadpoles
turtles
salamander
frog
weeds
mite

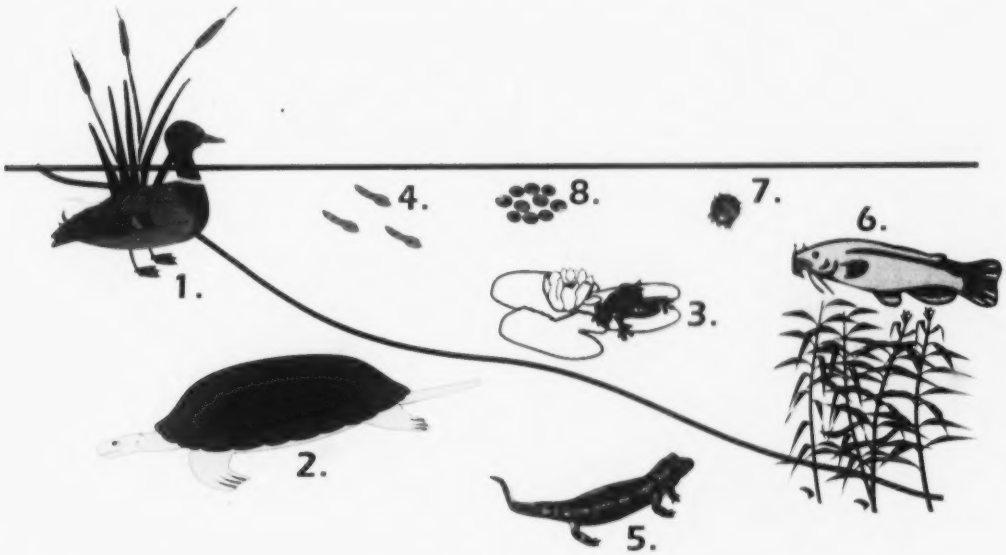
t	a	d	p	o	l	e	s	f	s
u	m	i	t	e	u	n	v	r	h
r	o	w	i	g	m	t	r	o	v
t	e	w	e	e	d	s	h	g	t
l	b	x	y	z	a	b	c	s	r
e	a	l	g	a	e	f	p	j	u
s	a	l	a	m	a	n	d	e	r

ACTIVITY 4

NAME _____

DIRECTIONS: Look at the picture with this activity. Each living thing is numbered. Using the list and the picture, write each name beside the correct number.

fish	duck	snapping turtle	frog
tadpoles	salamander	algae	mite



1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____

Extra Credit: Get a large piece of drawing paper and draw a pond community. Label each member of your community.

ACTIVITY 5

NAME _____

DIRECTIONS: You have read about each one of these animals. Choose one to write about in a story. If you need ideas, reread the paragraph about the animal that you chose.

fish	snapping turtle	duck
frog	salamander	mite

_____

ANSWER KEY

Activity 1

1. community
2. shallow
3. ducks
4. lily pad
5. pondweed

Activity 2

1. microscope
2. amoeba
3. algae

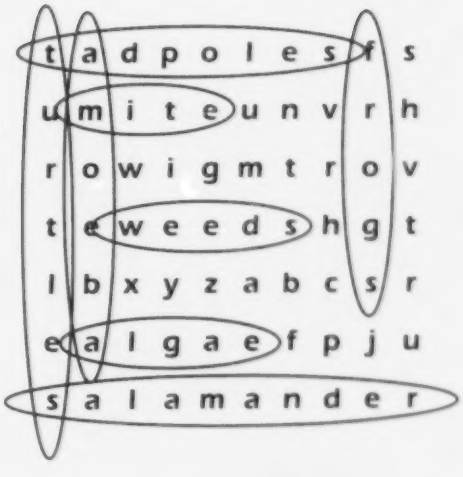
PICTURE 2 — Amoeba
PICTURE 1 — Mite
PICTURE 3 — Algae

Activity 3

1. snapping turtle
2. salamander
3. tadpoles

Activity 4

1. duck
2. snapping turtle
3. frogs
4. tadpoles
5. salamander
6. fish
7. mite
8. algae



Activity 5

Student choice of topic.

Appendix
A - E

APPENDIX A

LEARNING CENTERS

You may set up many independent or peer activities in special learning areas of the classroom. Identify each center by subject or purpose. For instance, a Science Center will contain materials for students to engage in experiments or gathering content information. A Reading Center engages students in reading activities.

How to Use Learning Centers

Learning Centers need to provide easy access and directions, so your students can use them successfully. Recorded directions help students who are not yet fluent readers. You can color-code some activities for easy access. The *Red Files* may contain activities for the students who are visual learners. The *Blue Files* may contain activities for those who learn best by listening.

Many unit activities are ready-made for Learning Centers. You can put the Activity Pages and lists of other activities in file folders there. Students can do these projects at the Learning Centers, either individually or with a buddy.

Scheduling Learning Center Time

The teacher must plan Learning Center time. One effective schedule places students at Centers on a rotation basis. While some students are with you for instruction, conference time, or reading/writing assignments, others pursue theme activities at a Learning Center. Here's a sample schedule:

8:15-8:45	Attendance, daily plans, sharing	10:15-10:30	Storytelling or free reading
8:45-10:00	Reading groups; other students in Learning Centers, or engaged in writing activities	10:30-11:15	Math groups; other students in Learning Center, or engaged in writing activities
10:00-10-15	Morning break	11:15-11:45	Lunch

You can plan a similar breakdown for the afternoon schedule. Try to schedule a 45-minute slot just for Learning Centers. You can circulate among those in the Centers to do some on-the-spot teaching as questions arise.

Management and Quick-Fixes

You must train your students to use Learning Centers efficiently. Allow no more than four or five students at a center at one time. Make sure that each student understands directions for activities placed there. Rotate jobs for each participant, so that the center can run itself. Jim may be the task master on Monday; the materials gatherer, Tuesday; the "voice monitor" (keep voices low), Wednesday; and so on. It helps to write each name and job on a card that you place at each Center daily.

Assessment Profile

The most useful type of evaluation or assessment of student learning is the Student Portfolio. A portfolio is a collection of student products and samples of work over time.

Each unit contains activities that result in products. Some of these products are: learning logs, literature responses, student-generated stories, poems, skits, songs, graphs, charts, illustrations, mobiles, murals, or dioramas, just to name a few. Not all samples fit into a folder. Keep a description or checklist that evaluates such products in your students' portfolio folders.

When you want proof of specific learning, interview each student or use some activity pages as assessment items. For specific facts or knowledge you require, selected response pages represent factual information. Student records and journal entries also demonstrate new knowledge. If you use some unit pages to assess learning, include a self-checking folder for your students.

Learning Center Guidelines

Learning Centers can be a valuable complement to your regular instructional activities; they provide another alternative for students to practice, explore, problems, and create. They also can help students to develop independence in managing their own learning.

Keep the following questions in mind as you begin to develop centers:

1. Does the Learning Center include a variety of materials which accommodate differences in learning styles?
2. Does it contain concrete, manipulative activities and paper/pencil activities? Is there a balance?
3. Does it contain some open-ended activities to encourage creative and original thinking?
4. Do the activities offer a variety of levels, to accommodate differences in ability? Are there activities at which all students can succeed? Are there challenging activities?
5. Are the activities self-checking and/or do the activities permit easy checking by you?
6. Does the student have a choice of activities to complete, or must the student do all the activities in the Center?
7. Does the Center include art, music, and literature?
8. Do the Center materials reflect diversity of gender, race, and language?
9. Are directions clearly stated and succinct?
10. Have you developed ways of keeping track of who has participated in the Center? Is the recordkeeping designed for the student to keep track of his/her progress in the Center?

11. Do the students have easy access to the materials?
12. Is the Center neatly constructed with appropriate printing/lettering?
13. Are the materials durable? Laminated? Have rounded edges?
14. Does the Center stimulate interest and further exploration?
15. Is there a unifying title or theme that appeals to students?

Setting Up a Center

Learning Centers will change with your content or theme. Before you begin a theme unit, decide which activities you will use; choose what to put in the Learning Centers accordingly. Put all materials in each Center that your students will need. The most essential supplies for each Learning Center are listed on the blackline master on the next page.

Essential Supplies for Learning Centers

Listening/Music Center

1. Tape recorder
2. Taped stories, poems, and songs
3. Supply of blank tapes
4. Headsets
5. CD Players
6. CDs
7. TV/VCR
8. Videos
9. Camcorder

Reading/Viewing Center

1. Relevant library books
2. Books on unit topics
3. Books made by students
4. Peer stories
5. Maps
6. Computer for reading files of work in progress, e-mail connections, and non-print media
7. CD-ROM drive and CDs (encyclopedia)
8. An Internet browser and other on-line connections
9. Printer
10. Film-strip Projector

Writing Center

1. Variety of papers: white, newsprint, scratch pads, legal pads, construction paper
2. Pens, pencils, crayons, felt-tip pens
3. Book-binding supplies
4. File folders
5. Paper Clips, stapler
6. Dictionary
7. Thesaurus
8. A list of idea starters
9. Expository and narrative writing samples
10. Pictures/Illustrations
11. Cartoon samples
12. Sample newspapers
13. Paragraph frame patterns
14. Computer for works in progress
15. Printer

Art Center

1. Construction paper
2. Scissors
3. Scotch Tape
4. String
5. Pens
6. Pencils
7. Colored chalk
8. Crayons
9. Tagboard
10. Poster board
11. Corrugated boxes
12. Mural/Bulletin board paper
13. Paint
14. Easel
15. Clay
16. Brads

Math/Science Center

1. Scales
2. Yardstick, rulers, measuring tape
3. Containers: measuring cups, spoons, bowls
4. Thermometers
5. Blocks
6. Graph paper
7. Aquarium
8. Egg cartons
9. Picture books and magazines
10. Cuisenaire rods
11. Math manipulatives

LEARNING CENTER ACTIVITIES

MAKE

1. Peep box of scene
2. Movie of paper or story
3. Mural of story
4. Puppet show
5. Picture of scene
6. Scale model
7. Map showing locations of story events
8. Book jacket with summary inside
9. Picture books
10. Fact/Data books
11. Illustrated journal
12. Flannel board story
13. Pictures of characters

DO

1. Dramatize a part
2. Pantomime a part
3. Show something new
4. Round-table discussion
5. Continue a story
6. Radio program
7. Eyewitness report
8. Give news flashes
9. Chalk-talk: tell a story
10. Perform a skit
11. Book chat

TELL

1. Summary of story
2. Interesting facts learned
3. Something new learned
4. Problem and solution
5. Interesting words and expressions
6. Story board

WRITE

1. Summary of data
2. Semantic web of information
3. Story
4. Skit
5. Acrostic poem
6. Newspaper article
7. Letters to authorities
8. Story starters
9. Tall tale
10. True/False book
11. Legend
12. Story board narrative

Learning Center Checklist

Presentation:

- ❑ unifying theme/art work
- ❑ colorful, attractively designed
- ❑ neatly assembled

Contents:

- ❑ age-appropriate, stage-appropriate
- ❑ variety of materials
- ❑ activities at varying levels (easy to challenging)
- ❑ incorporate various disciplines
- ❑ concrete/manipulative and paper/pencil activities
- ❑ some open-ended activities
- ❑ stimulates creative thought/interest
- ❑ free from stereotypes
- ❑ incorporates diversity
- ❑ provides for choice

Organization:

- ❑ clearly-stated directions
- ❑ directions appropriate for age/stage
- ❑ recordkeeping form included
- ❑ self-checking activities
- ❑ accessible materials

Construction:

- ❑ durable materials
- ❑ laminated
- ❑ rounded edges
- ❑ appropriate printing/lettering
- ❑ appropriate containers for activities

APPENDIX B

HOW TO MAKE AND USE BULLETIN BOARDS AND FILE FOLDERS

With limited space in classrooms today, you must find inventive ways to keep your students active and interested. The following two ideas may help you plan for the activities in these units.

Bulletin Boards

If your classroom has only one bulletin board, you may want to think about other ways to provide interactive boards. Large portable bulletin boards will provide two sides for work, and you can move them around the room as dividers. You can fold flannelboards and store them when not in use. You can paint large cardboard boxes from kitchen appliance or television stores; the four sides are usable as bulletin boards. Sides of file cabinets, doors, and spaces under chalkboards can also serve as working bulletin-board spaces. You can use window blinds for attaching materials, but be aware of the safety factor. Children's clothing can get caught if the blind mechanism begins to wind up.

While it may be too costly to laminate all the materials for the board, you will want to laminate any materials you expect to use again. If you are concerned about thumb tacks, velcro strips are good for mounting materials. Pellum, the material used for sewing suit interfacing, works well on flannelboards, and is cheaper than flannel or felt. Although adhesive tape will put things on the bulletin boards, it tends to tear the material when you take it off the boards. While there are commercial materials to use with the bulletin boards, you can be inventive in finding ways to accomplish the tasks of mounting materials on bulletin boards.

File Folders

You can make file folders from many different types of folders. Office supply stores have different forms to adapt for your own purposes. For instance, regular heavy paper folded in half can be fastened on both sides to become an envelope for holding materials. Colored folders allow for color-coding materials into subjects.

Accordion-style folders allow for more materials in the pockets. The notebook folder has pockets on each side of the opened folder, or places to attach papers in fasteners, to allow for book writing. More expensive folders are transparent plastic; you can use them repeatedly for many different themes.

Parents who work in offices may give you used file folders they would normally discard. They may also be able to provide materials for the folders. If you tell parents your themes for the next few weeks, they may be willing to make folders for your class. Parents often think of creative activities that may not have occurred to you.

It is important to laminate file folders so they will last after frequent use from many children. You can laminate with clear shelf paper found in grocery stores. Practice on some old papers, so you can learn to cover without creating air bubbles.

With a box or small crate for storage, your students can use these activities at their own desks or at a small classroom table. With boxes placed in Learning Centers, students will not waste time waiting in line to choose a file folder.

SAMPLE BULLETIN-BOARD/FILE FOLDER DISPLAY

Bulletin Board

TOPIC: Mystery Magnet

TEACHER:

1. Make sets of pictures and word cards of items that a magnet will and won't attract.
2. Place velcro strips on each card.
3. Make pockets for picture cards and word cards.
4. Place velcro strips in columns on the bulletin board.

STUDENTS:

1. Draw a card from each of the pockets.
2. Put each card under the appropriate side of the bulletin board.

Alternate Activity:
Students can expand this activity by adding more pictures to the collection.

WORD CARDS AND PICTURES:

1. tack
2. clip
3. hook
4. hat
5. can
6. ball
7. nail
8. coin
9. sock
10. football
11. shoe

File Folder

You can put this same project in a file folder. Place the cards on the corners of an open file folder. Paste the envelope to the back of the file folder, with the instructions on the front.

APPENDIX C

GLOSSARY

Accordion book: A book made by folding paper into an even number of sections.

Acrostic poem: A poem in which the first letter of each line forms a word, e.g.

Cuddly and cute
Always happy to see me
Tabby is her name.

Baggie book: A book made from putting several ziplock plastic bags together. Use any size ziplock plastic bags; cut plain or lined paper to fit into the bag. To bind, place the closed ends of the bags together, staple, then bind with colored plastic tape. Students can change contents of the book by removing pages and inserting new ones.

Bar graph: A graph which uses squares (or bars) to represent data.

Big Book: An oversized version of a book written with especially large text and illustrations. Print and illustrations can be easily seen by groups of children.

Bingo: A game for large or small groups, consisting of cards divided into sections. Each section contains a picture or word related to the theme being studied. You can also use a deck of cards with corresponding pictures or words. Each player has a card; the caller, using the large deck, calls the name of the picture or word. Students cover the corresponding picture or word on their cards. Play continues until a student has covered a row, column, or diagonal.

Chalk-talk: A technique for sharing a story which involves illustrating on the chalkboard while telling the story.

Collage: An artistic arrangement of various materials into a picture or design.

Concentration: A game involving matching pairs of cards, similar to Memory; especially useful for developing visual discrimination, sight word recognition, or number facts. Students shuffle the Concentration deck and place the cards face down; students turn over two cards and try to match the cards; if they match the cards, they keep the pair and get another turn. The winner is the student with the most pairs.

Concept book: A book focusing on a single idea or concept. Examples: a concept book of colors, size, shapes, time, machines, apples, etc.

Concrete poem: A poem written in the shape of the object/idea being described.

Contrast poem: A poem which contains two parts that show different aspects of the same subject. Example:

<u>The Weather</u>
The sun bright and yellow/ Shines in the sky.
Rain pours down/ From darkened clouds.

Diorama: A three-dimensional, artistic reproduction often constructed in a container of some sort: for example, a shoe box representing an animal habitat.

Dominoes: A matching game; players match small rectangular game pieces by placing them end to end.

Fact/Myth book: A book with a fact written on one page and a corresponding myth (untruth) on the facing page.

Fingerplay: A short poem incorporating hand motions.

Flannelboard: A board, usually rectangular, covered on one side with flannel or similar material.

Flip book: A book consisting of several pages which, when flipped through quickly, shows a sequence of actions.

Go Fish: A card game involving collecting "books" of matching cards. Students shuffle and deal seven cards to each player; the remaining cards are placed in a pile in the center. Students in turn ask the next player to "Give me all your _____," trying to make a book consisting of three cards. If students have the requested card, they give it to the other player. If they do not, they say "Go Fish". The player who must "Go Fish" selects a card from the center pile. Play continues until the winning player goes out first or has the most books.

Haiku poem: A Japanese form that addresses the seasons. Contains three lines of five, seven, and five syllables, a total of 17 syllables.

Interlocking puzzles: Puzzles whose pieces connect; especially helpful in developing visual discrimination, sight word recognition, and number facts.

K-W-L chart: A strategy to determine prior knowledge about a topic (What I Know); interest in the subject (What I Want to Know); and knowledge following instruction (What I Learned). At the beginning of a unit, the teacher records what the students already know about the topic, then asks what they want to know. The partially completed chart hangs in the classroom; at the end of the unit, the teacher records what students have learned.

Language Experience: Students participate in some kind of experience, either as a group or individually, and discuss the experience; then the student(s) dictate a story related to the experience. After hearing the story, students can do a variety of literacy activities with it: matching words in the story, illustrating words they recognize from the story, matching phrases, and so on.

Learning Log: A journal where students explore information they are studying.

Observation journal: A journal in which students record observed data.

Pictograph: A graph which uses pictures to display data.

Pocket chart: A large chart made of cardboard or plastic, which contains sections for cards or sentence strips.

Rebus recipe: A recipe which uses pictures instead of words.

Rebus story: A story which uses both pictures and words.

Rebus web: A brainstorming technique using pictures to represent ideas.

Semantic web: A brainstorming technique which uses words to represent ideas.

Sentence frame: Partial sentence used to prompt student writing, e.g., I like bears because _____. When I see _____, I feel _____.

Sequence strips: Strips of paper containing portions of a story; individual strips can be combined into a sequence.

Shape books: Books in the form of the topic being written about; e.g., books in the shape of animals, insects, fruits, vegetables.

Shared Reading Time: A time during the school day when the teacher reads to the students; as students become fluent readers, they can read to each other.

Shoebox sorter: A classification container. Partition a shoebox into sections according to the number of categories desired. Make corresponding cards for the theme being studied that students can sort into the shoebox.

Simon Says: A game of following directions. Caller gives directions; some begin with "Simon Says"; others do not. Students perform only those actions beginning with "Simon Says"; if they follow the directions that don't begin with "Simon Says", they are out of the game. To keep them involved, let the "out" students help you catch others who follow the direction without "Simon Says."

Single character cut-out: A child-size picture of a character from a story. It shows the body, but the face is cut out. Students hold the character cut-out in front of their faces while they retell or dramatize the story.

Storyboard: A retelling technique which uses pictures only; students illustrate portions of the story, then arrange the portions sequentially.

Tangrams: A set of seven varying shapes (five triangles, one square, and one parallelogram) are used to make many different forms.

Theme box: A container for props, costumes, and equipment pertaining to a specific topic or theme; useful for stimulating dramatic play.

Think-Pair-Share: Teacher pairs students to think about a concept and share their ideas on it.

Transparency story: Acetates (overhead transparencies) and erasable marking pens help students retell a story. Teacher writes the text from the story on the acetates; students draw a picture to accompany the text; then they sequence the illustrated portions and show them to the class with the overhead projector. As students become more fluent, they can write the text for illustrations drawn by the teacher.

Venn diagram: A graphic organizer consisting of two intersecting circles; used for comparing similarities and differences.

Web: A balloon drawn on the chalkboard that contains words, phrases, or images to be discussed and related.

Word bank: A collection of words for students to read. Write words on index cards and keep them in small containers (banks).

Word Wall: A designated wall in the classroom where words are posted that interest students. May relate to the theme being studied; useful to help students with spelling as they compose their own stories.

APPENDIX D

How to Make a Book

1. Select the type of book: traditional, modern, accordion, baggie, hinged cover, shape, pop-up.

2. Include these essential components:
   front cover
   title page
   dedication page (optional)
   story/content
   about the authors (optional)
   back cover

3. Attach book pages. The simplest way to attach pages is by stapling; however, there are other alternatives. Office supply stores offer a wide range of fasteners; you may find yarn, ribbon, string, or shoe laces at sewing stores. Pages may be glued to a backing of construction paper, then stapled together and covered. Pages may also be folded and glued back-to-back or stitched down the center. If your school has a bookbinding machine, you may attach the pages using spiral binders.

4. Attach cover. Choose materials that are durable or can be laminated. Possibilities are: tag board, mat board, cardboard, construction paper, cloth, wrapping paper, wallpaper (usually available free from paint/wallpaper stores), and contact paper. A variety of tapes for binding are also available: cellophane, masking, cloth, duct, or colored vinyl.

5. Helpful hints
   - Allow a margin on the left side of the paper before children start writing the story.
   - Cut cover pieces slightly larger than the writing paper; 1/4- to 1/2-inch is usually a good idea.
   - Sometimes you may wish to give a pre-assembled book to students; or you may want to give them individual sheets of paper. The latter is a good idea for children just beginning the process, since you want them to succeed in their story-writing endeavor.
   - It is easier if there is a straight edge on the side to be bound.

For additional ideas on making books, these resources might be helpful:

Evans, Joy and Jo E. Moore. *Making Big Books with Children*
Evans, Joy, et al. *Making Seasonal Big Books with Children*

APPENDIX E

TEACHER RESOURCES

Bittinger, Gayle, ed. *1001 Teaching Props: Simple Props to Make for Working with Young Children*

Boardman, Eunice. *Dimensions of Musical Thinking*

Johnson, Judi, ed. *The Educational Software Preview Guide*

Carle, E. *Animals, Animals*

Scholastic Books. *Poetry Place Anthology*

Neill, Shirley and George. *Only the Best: The Annual Guide to the Highest-Rated Educational Software: Preschool-Grade 12*

Prelutsky, Jack. *The New Kid on the Block*

Schiller, Pam and Thomas Moore. *Where is Thumbkin?: Over 500 Activities to Use with Songs You Already Know*

Silverstein, Shel. *Where the Sidewalk Ends.*

Wilmes, L. and More, D. *Everyday Circle Times*

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